

Open Research Online

The Open University's repository of research publications and other research outputs

A personal construct theory approach to the vocational counselling of young people in the context of the careers service

Thesis

How to cite:

Towner, Michael Antony (1988). A personal construct theory approach to the vocational counselling of young people in the context of the careers service. MPhil thesis The Open University.

For guidance on citations see [FAQs](#).

© 1985 The Author



<https://creativecommons.org/licenses/by-nc-nd/4.0/>

Version: Version of Record

Link(s) to article on publisher's website:

<http://dx.doi.org/doi:10.21954/ou.ro.0000f931>

Copyright and Moral Rights for the articles on this site are retained by the individual authors and/or other copyright owners. For more information on Open Research Online's data [policy](#) on reuse of materials please consult the policies page.

oro.open.ac.uk

UNRESTRICTED

A PERSONAL CONSTRUCT THEORY
APPROACH TO THE VOCATIONAL
COUNSELLING OF YOUNG PEOPLE
IN THE CONTEXT OF THE CAREERS
SERVICE

THESIS FOR THE DEGREE OF MASTER OF PHILOSOPHY
PSYCHOLOGY DISCIPLINE THE OPEN UNIVERSITY

MICHAEL ANTONY TOWNER

BACHELOR OF ARTS THE OPEN UNIVERSITY

AUGUST 1985

REVISED DECEMBER 1987

Date of Submission: 4th September 1985
Date of Award: 3rd June 1988

ProQuest Number: 27775928

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent on the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



ProQuest 27775928

Published by ProQuest LLC (2020). Copyright of the Dissertation is held by the Author.

All Rights Reserved.

This work is protected against unauthorized copying under Title 17, United States Code
Microform Edition © ProQuest LLC.

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

ABSTRACT

Generalised theories about the processes involved in making a vocational choice have frequently proved inadequate in explaining individual decision-making. Consequently such perspectives have often been ignored by those practising vocational guidance.

A research project was carried out to explore the practical application of some aspects of George Kelly's (1955) 'Psychology of Personal Constructs', in order to see if it could offer an improved level of insight into the process. The research took place over a period of several years within the context of a local authority Careers Service. The technique of repertory grids was used, in the form of an interactive computer program, which provided a practical aid for use by careers officers in their work.

A pilot investigation demonstrated that not only was this approach of value to the vocational guidance practitioner in understanding the individual client, but also to clients themselves in gaining insight into their own decision-making processes.

Subsequent work in the research extended the use of the grid technique within the wider context of personal construct theory. A number of careers officers were involved in exploring further application of aspects of the theory, since it was demonstrated that it could help to explain many of the individual exceptions to other theoretical frameworks. Additionally it offered the potential for a more coherent use of counselling skills for assisting planned personal development. Some implications for the work of the Careers Service, and for careers education in schools, were considered subsequently.

CONTENTS

ABSTRACT

CONTENTS

GENERAL INTRODUCTION

i

1

I: VOCATIONAL CHOICE IN THEORY AND RESEARCH

Introduction	4
Some comments on occupational choice	7
Some theories of occupational choice, and a critique	8
British research into occupational choice	15
From theory towards practice	16

II: VOCATIONAL CHOICE IN PRACTICE: THE CAREERS SERVICE AND THE CLIENT

Introduction	18
The Careers Service in England and Wales	19
Education and employment contexts	21
The changing situation	22
The impact of change	25
Interviewing	26
Recent approaches to work-load organisation	28
The problem of evaluation	32
The careers officer and outside influences	35
Careers information provision	37
Relating practice and theory: some implications for a research programme	38

III: INTRODUCTION TO THE RESEARCH PROGRAMME, AND THE PILOT STUDY: DESIGN, RESEARCH ACTIVITIES AND DISCUSSION OF RESULTS

Introduction	40
1.2 Outline research plan and its general purpose	42
1.3 Specific aims	43
1.4 Local Careers Service context	44
1.5 The need for a pilot study	45
2 Design of the pilot study	
2.1 Criteria for assessment	45
2.2 Description of the general client group	47
2.3 Selection of the experimental group	47

2.4	The control group	48
2.5	Equipment and materials:	
	a) Hardware	49
	b) Software:	
	Choice of computer program	50
	Description of the KELLY program	54
	Instruction booklet	56
3	Procedures	
3.1	Job choice emphasis	57
3.2	Provided and elicited elements and constructs	57
3.3	Field work:	
	a) The pilot group	58
	b) Careers guidance procedures	58
	c) Use of instruction booklet	60
	d) Program use	61
	e) Follow-up	61
4	The results of the pilot study	
4.1	Pilot trial group	62
4.2	Control group	63
4.3	Quantitative results	
	a) Element use	63
	b) Construct use	64
	c) Relation between elements and constructs	65
5	Discussion of results	
5.1	Difficulties experienced during the pilot trials	66
5.2	Validity and reliability	68
5.3	The role of the control group	71
5.4	General user reaction	72
5.5	Case studies	75
5.6	Further comments on grid use	75
5.7	Implications for ongoing research	76

IV: SOME ASPECTS OF PERSONAL CONSTRUCT THEORY IN THE VOCATIONAL GUIDANCE SITUATION

Introduction	77
The practical application of the theory	78
Philosophical assumption	78
Reflexivity	79
The theory of personal constructs	79
The client-counsellor relationship	80
The nature of constructs	82
Construct hierarchies	87
Other influences on vocational choice	90
The need for experience	92
The school to employment transition	93

The CPC cycle	93
Counselling for construct change	94
The formation of new constructs	95
Theoretical insight and the guidance interview	100
V: THE CONTINUATION OF THE RESEARCH WITH YOUNG PEOPLE	
Ongoing repertory grid use	101
Micro-computer adaptation:	
a) Equipment	102
b) Software	102
Elements and constructs	104
Additional changes	105
Using grids in interviews	106
Interview style and technique	109
User group	112
Personal decision-making	113
Conclusions from the ongoing research	114
VI: CAREERS OFFICER INVOLVEMENT IN THE RESEARCH PROGRAMME	
Pre-planning stage	117
Pilot trial phase	118
Continuation phase	119
Other developments	120
Results of feed-back	122
The researcher as change agent	123
Further work	125
VII: IMPLICATIONS FOR FURTHER RESEARCH AND FOR CAREERS EDUCATION AND GUIDANCE	
Introduction	126
Further research needs	126
Implications for the Careers Service	129
Implications for careers education	137
Conclusion	138
Addendum: The future	139
APPENDIX 1: Copy of the instruction booklet for young people, used in the pilot trials of the Open University 'KELLY' repertory grid computer program	143
APPENDIX 2: Typical grid print-out and analysis from the 'KELLY' program	149

APPENDIX 3: Copy of the revised instruction sheet used with the 'JOBSORT' micro-computer program	153
APPENDIX 4: Typical run, and grid print-out of the 'JOBSORT' micro-computer program	155
APPENDIX 5: Interpreting and analysing grid print-out for use in vocational guidance interviews	179
APPENDIX 6: Case studies of repertory grids used with young people during the research programme	185
APPENDIX 7: Naturalistic Enquiry: a summary, and discussion of the implications for research methods in relation to personal construct theory	217
REFERENCES	223

GENERAL INTRODUCTION

The subject of this thesis is a research programme carried out over a period of six years in a local authority Careers Service setting. The overall aim of the research was to improve the level of guidance offered to young people by practising careers officers whilst remaining within current resource constraints. In order to achieve this the research was designed to explore the application of some aspects of George Kelly's (1955) 'Psychology of Personal Constructs' to the vocational guidance of young people. The technique of repertory grids was adopted, using an interactive computer program, as this provided a practical aid which helped to focus the research work.

This thesis has been written in such a way as to provide the basic information necessary for any readers who are new to all of the material under discussion. Others however will already be familiar with certain aspects, such as the work of the Careers Service for example. Consequently the layout has been arranged to make it possible to omit such sections as appropriate. The content is therefore arranged as follows:

- I The theoretical perspectives and research into the process of occupational choice and entry; their weaknesses, and their influence on vocational guidance practice;
- II The work and role of the Careers Service, including changing resource demands, and organisational response to these;
- III The context of the research programme, including recent

research in the use of repertory grids; the design, research activities and the results of the pilot trials, and their implications for any continuation of the research;

- IV Some aspects of personal construct theory relating to the next stage of the research;
- V The ongoing research with young people;
- VI The involvement and training of careers officers in the use of the techniques with clients;
- VII Implications for potential further research, and for careers guidance and careers education generally.

Without pre-empting any of the implications of the pilot trials discussed in Chapter III, the discussion of personal construct theory in Chapter IV was seen as essential to the effective development of subsequent research, for reasons which are discussed at the appropriate point.

Throughout the thesis the terms counselling and guidance are used frequently. In order to avoid confusion the word counselling is used only to refer to a non-directive process in which the counsellor is trying to help clients to verbalise and explore their own ideas and feelings. This may be done by indirect or direct questions, by reflecting back the client's own responses, or by other methods which do not generally involve the counsellor expressing any opinions. Guidance on the other hand is used to describe a more directive process

in that it may involve the giving of specific information, discussion of the advisability or possibility of particular courses of action, or providing other specific help. It follows that in the context of the Careers Service guidance can include counselling, but not vice versa. The aim in both cases is seen here as being the same: that of helping individuals to learn to make and carry out their own decisions. The importance of this particular statement in relation to the nature of the research will become clearer later on.

I

VOCATIONAL CHOICE IN THEORY AND RESEARCH

INTRODUCTION

The process by which an individual chooses and enters what has been variously called a job, career, occupation or vocation, has interested a number of researchers and theorists. Around this process, and particularly at the point in time of entry into paid employment, there have developed a whole series of formal and informal organisations and structures. These have become involved with what is currently referred to as vocational or careers guidance. This is a function concerned with assisting the individual to make and carry out such choices, by provision of information, counselling and guidance, and links between employers and potential employees as appropriate.

From the early days of employment services in Britain, not only for adults but also for juveniles as they were then known, the emphasis has been strongly on the entry into employment and the training that might be necessary for this. Such emphasis is reflected in various government committee reports and Employment and Training Acts. The aim of any related vocational guidance was that of matching an individual's abilities, aptitudes and interests to the assumed requirements of a suitable job. In so doing the individual would achieve personal job satisfaction, and the employer would find the ideal

employee.

However, human nature tends to complicate what might appear to be a straightforward procedure. There was a progressive awareness that perhaps not all individuals were achieving their full potential in their employment. Additionally a number of factors over which they had no control were intervening in the choice process to make it more complex. Consequently there began to grow a whole body of academic research and theory about occupational choice and entry, which attempted to explain how the process took place, or to isolate those factors which had the greatest influence on the eventual outcome.

As Clarke (1980)(b) has stated, this body of research and theory has had little impact on vocational guidance practitioners and their clients, in Britain at least. Clarke has suggested a number of reasons for this, not least the inadequacies in ensuring that the results reached practitioners and not just other researchers.

The research programme which is detailed as the major part of this thesis is primarily concerned with the area in which both theory and research have been weakest. This is the area which is concerned with the individual psychological processes which occur when trying to make any kind of choice, not just choice related to occupations. Research has often isolated the choosing of an occupation in a way which ignores the relative importance of the various priorities in an individual's overall lifestyle, and which are brought into play in weighing up decision options.

One possible exception to this is the approach proposed by Wooler (1979), using multi-attribute utility theory. This is

a branch of decision theory which is concerned with the relative desirability of the various consequences arising from making choices. Humphreys (1985) suggests two levels of 'decomposition' by which the 'utility', the relative attractiveness of each choice, can be measured. This represents an assessment of the subjective value to the individual of a particular choice.

The first level of decomposition is concerned with the overall effect on the individual that each choice will have: the consequence. This first level is determined however by a number of attributes which characterise such an overall choice, and these individual attributes or 'part-worths', and their separately perceived desirability, constitute the second level of decomposition. This second level is also concerned with the weighting the individual gives to each 'part-worth' and the likelihood of it being part of the outcome of any particular overall choice.

This approach to decision-making was applied in work by Himmelweit et al.(1981) in relation to the way in which people choose a political party in an election. Wooler and Erlich (1985) report the use of the ideas in helping individuals to make vocational decisions.

Some of the previous research into vocational choice implies that the individual is often an unwitting object of social and economic forces. This is a view which was rejected by George Kelly (1955), whose work is at the centre of the research carried out and reported here. Kelly's theory of personal constructs is primarily about the individual learning to creatively

interpret and re-interpret social situations, so as to be more aware of alternatives for appropriate courses of action. It is therefore valuable, as an introduction to the research here, to look first at some of the theories and other previous research into occupational choice. This will help to identify those individual clients frequently seen by practitioners who fall outside of such frameworks, because their decision-making processes are not adequately explained by them.

SOME COMMENTS ON OCCUPATIONAL CHOICE

The process of occupational choice is about how the individual reaches a preference for a particular kind of employment. How entry to this employment is achieved is largely a separate area of concern, but awareness of some of the factors involved in entry is part of the progression towards the choice. Theories about how a stage is reached when it is possible to act on preferences are mainly of two kinds.

Firstly there are those theories which have a primarily psychological emphasis, and concerned therefore with the psychological processes involved. For example some such theories try to relate personality traits to the choice of particular kinds of work. Others try to relate the psychological concept of self with the entry into employment, as a move towards a kind of self-actualisation.

Secondly there are the theories which have a sociological emphasis, concerned with those socio-economic factors which

influence or limit the possible outcomes. Whilst some theories have been of a more composite kind these seem to have made less impact. In Britain the two writers who have had the most influence have been the American Donald Super, and the British Kenneth Roberts. Their influence in this context is judged by the far greater extent to which their writings have reached those practising vocational guidance, through appropriate journals, and which have consequently resulted in discussion of the issues involved.

SOME THEORIES OF OCCUPATIONAL CHOICE, AND A CRITIQUE

Super's (1953) theory of occupational choice is an example of the psychological emphasis mentioned above. It originated in response to the earlier work of Ginzberg (1951).

Although the basic idea of trying to link the individual with a job by talent-matching still remains very much a part of vocational guidance practice, there was a realisation that this matching is not just a single event at a certain point in time. The reliance on the single employment or careers interview was effectively challenged by Ginzberg's suggestion that choosing an occupation was in fact a developmental process.

The three most important aspects of his theory were:

- a) seeing the process as a developmental one through identifiable stages from childhood to adolescence;
- b) regarding most aspects of the process as irreversible in that each stage of choice makes it more difficult

to go back and try to make different choices;

- c) accepting that compromise is an essential part of each stage of choosing.

He also suggested the idea of vocational immaturity, in which the young person tends to stick at an earlier stage of the process and consequently makes choices which are inappropriate.

Super (1953) put forward his own developmental model in an attempt to cover what he saw as some of the weaknesses of Ginzberg's work. In particular Super extended the process to cover adult life, and not just adolescent career choice. He proposed two ideas which are important in the present context:

- a) that vocational choice could be regarded as the implementation of a self-concept;
- b) that making a vocational decision implied a readiness to do so, in some ways not unlike the idea of reading readiness.

Among the criticisms of these theories are the fact that they were written within the context of the American educational and economic systems. They do not therefore, it is argued, apply to vocational choice in Britain. This would seem to be a rather unfair criticism of a theory which is basically a psychological explanation. Rather more specifically Roberts (1975) has criticised Super's idea of implementing a self-concept, on the grounds that such implementation requires a context of real choice. Super's ideas followed on from Ginzberg's work, which itself was developed after looking at a group of middle class, and therefore relatively privileged, college students for whom

choice was a valid term. They were chosen because of their particular background and level of academic ability, so that they would have a range of alternatives open to them. It can be argued therefore that Super's conclusions only apply to a minority. For most individuals there are several constraints on choice which make the implementation of a self-concept in employment an impossibility.

In an attempt to remove some of the criticisms of his ideas Super has been working with a research team in Britain, at the National Institute for Careers Education and Counselling, to see how his theory might be adapted. Some work is also being done on the self-concept idea, which is otherwise unresearched in specific relation to vocational choice.

Roberts (1968)(1975) has been one of the most consistent critics of the Ginzberg and Super developmental model. Indeed by presenting his ideas to those working in the Careers Service he has begun a discussion which continues up to the present. Correspondence over a long period in journals such as the Department of Employment's 'Careers Bulletin' have demonstrated that many careers officers have recognised in their work much of what Roberts was arguing.

Roberts' work is primarily sociological in emphasis. He suggests that real choice is not open to many people, particularly in times of high unemployment. Socio-economic forces ultimately decide what is available to the individual. He therefore proposed what he called an opportunity-structure model.

His own research suggested that:

- a) young people often take whatever jobs are available to them at the level they can enter;
- b) that young peoples' ambitions change to fit the jobs that are possible for them; are generally consistent with their current jobs; and adjust to fit occupational changes rather than vice versa;
- c) that most young people are satisfied with the jobs they are in;
- d) that school leavers in this country have mostly modest and realistic ambitions.

He emphasised the importance of socio-economic background on choice, and of subsequent education and the importance of qualifications in determining entry level. He argued that because most school leavers have very limited job knowledge they adapt easily to the job entered because it provides, through experience, the only concrete knowledge they have. Job changing tends to take place at the lowest levels, and consequently is seen not as a sign of maladjustment but as a healthy attempt to find more job satisfaction within given limits of opportunity.

As suggested earlier it is the exceptions to the rule which may eventually determine how useful the theory is in practice. By concentrating on the opposite end of the social spectrum as it were, Roberts comes under the same criticism as Super. His ideas only apply to certain individuals. His theory fails to give any explanation of how the individual makes a choice when there are choices to be made. He also does not explain what

psychological processes are involved in the individual acceptance of the imposed limitations on choice.

Since research tends to get out of date because of contextual changes, and therefore any theoretical formulations which are based on particular research can become less valid, Roberts' earlier ideas are increasingly more questionable in current circumstances. Even at the lowest levels there are now choices that have to be made.

The change to comprehensive schools has largely invalidated earlier research about the effects of different types of schools within a selective system, since this no longer exists to the same extent. However this only applies to the state education system. The divide between the state and private systems is more than ever a source of discussion, especially in a time of public expenditure cut-backs.

There has been a growth in both schools and further education colleges of non-academic or vocational courses for those who traditionally rejected continuing education. Consequently many more young people are considering this as an option. The introduction of the Youth Opportunities Programme, and the newer Youth Training Scheme, have opened up further alternatives, particularly for those who previously had fewer choices. In spite of various criticisms, both politically and otherwise motivated, these schemes have often provided quality training and support for young people of a kind which previously did not exist. In some cases, such as the major clearing banks, experience with young people without the usual academic entry

requirements has led to a re-assessment of recruitment policy.

As far as young people are concerned it would seem to the vocational guidance practitioner, as a consequence of such new developments, that there is a constantly changing hierarchy of status concerning the acceptability of the alternatives on offer. Referring back to multi-attribute utility theory (see page 6) the likelihood of employment following on from any of these alternatives is an important second level attribute taken into consideration when deciding. Such a status hierarchy is another area where research is lacking.

Whilst the above summaries are an over-simplification of their respective viewpoints, they do indicate the key issues being argued about. At the centre is the whole question as to whether the individual is in reality able to make choices, or whether these choices are pre-determined by social and economic factors.

There have been a number of other ideas put forward, but none of these has had the same kind of impact. Some have attempted to bridge the psychology-sociology divide. For example Blau et al. (1956) suggested a conceptual framework within which occupational choice could be seen to take place. This includes taking into account individual preferences, the sociological factors limiting choice, and the economic context affecting the selection of employment. Holland (1966) tried to relate a series of personality types to occupational groupings, in explaining how the individual comes to prefer a particular kind of employment.

More recently, Law (1981) has suggested that between the individual psychological focus of self-concept theory on the one side, and the larger contextual sociological focus of opportunity-structure theory on the other, there lies a 'mid-range' focus which he calls a 'community-interaction' theory. In Law's terms 'community' refers to the various localised groups of which any individual is a member, such as the family, ethnic and neighbourhood, school and peer groups, and so on. It is at this level that the socio-economic influences and the individual psychological factors are mediated, through personal interaction within these groups which form the real-life context in which choices take place. The individual is influenced by the attitudes and perceptions of other members of these various groups.

Law identifies the source of his theory in an earlier article by R.J.Roberts (1980), and both writers use ideas which seem to derive, either directly or indirectly, from personal construct theory. In particular there is a strong emphasis on individual and constantly changing constructions of reality, of self and situation, which result from interaction with others.

The main criticism of Law's theoretical perspective which may be made in the present context is that it is too generalised, and does not go far enough to explain how the individual actually comes to make decisions. It is difficult to see why he does not simply adopt a construct theory approach as a more specific and adequate 'mid-range' perspective.

Some writers have tried to apply other specific psychological

approaches such as social learning theory. Krumboltz (1976) for example suggested that the decision-making skills involved reflect the influence of learning experiences in a particular cultural context. Patterns of reward and punishment pre-determine the kind of work environment which the individual moves towards. Kelly (1955) rejected such theories as being too deterministic, and therefore of little value in a counselling situation where personal change and development are seen as prime aims.

As stated earlier, the main weakness in many of those theories which have had any influence is in explaining how choices are actually arrived at. Little seems to be known about how the individual's psychological processes work to reconcile the perceived demands of the various factors involved in the vocational choice situation. As Clarke (1980)(a) has suggested:

"Careers education and guidance now stretches over a number of years, yet there is little knowledge of what constitutes normal or successful vocational development, or at what points in the process intervention can be most effective".

BRITISH RESEARCH INTO OCCUPATIONAL CHOICE

Although research into occupational choice in Britain has been widespread, in general researchers have tended to study rather isolated factors. Additionally little of the research has been carried out to test the suppositions of occupational choice theory. Consequently research findings have also had an

indeterminate influence on practice. The factors researched include those specific to the individual such as intelligence or ability, sex, personality types, or interests; those broadly environmental factors which may have a direct influence such as social class, racial and cultural or religious background, parental occupation, and the kind of education system experienced; and the influence of both informal guidance such as parental and peer group opinion, and formal systems such as the Careers Service and school careers education.

Clarke (1980)(a) in a concise summary of the various research findings concluded that most of these support the idea that allocation rather than choice is the keyword. Some of the findings of researchers such as Carter (1962) and Maizels (1970) on the school to work transition, whilst supporting much of what Roberts is saying, are now dated where they relate to the previously selective education system. Nonetheless, as Roberts has argued, regardless of these findings the Careers Service has adopted a counselling and guidance emphasis, based on the developmental model with individual choice at the centre. This may reflect the ideal that such counselling and guidance may help to overcome some of the constraints on individual choice, particularly for the more disadvantaged.

FROM THEORY TOWARDS PRACTICE

The practice of vocational guidance is based on understanding of a number of factors about a client, and an attempt to match

those factors to suitable employment. Research has demonstrated that we still have limited understanding of how individuals make occupational choices. General theories have tended to ignore the uniqueness of personal decision-making and the balancing of the numerous factors that come into play. It is necessary to ask if a theoretical perspective can be developed which would provide increased client-counsellor understanding without compromising individuality. In addition we need to learn how best to use guidance and counselling, in order to help the individual to learn to minimise the constraining effects of those factors which Roberts has argued are so significant in the choice process. These are points which are addressed in the research discussed later.

II

VOCATIONAL CHOICE IN PRACTICE: THE CAREERS SERVICE AND THE CLIENT

INTRODUCTION

There is a lack of research evidence to support any idea that the majority of vocational guidance practitioners adopt a coherent and stateable theoretical basis for the way in which they work. Indeed current practice would suggest that aspects of theory and research are only used where they support what is already being done. At best it is likely that parts of several different theoretical perspectives are adopted in order to provide a rationale for the work carried out.

The Careers Service as it currently exists is a good example of this division between theory and practice, and the reasons why it probably exists. Since the major focus of this thesis is a research project which applied aspects of a specific psychological theory to explain and assist the decision-making processes of Careers Service clientele, it is appropriate here to outline the role and functions of the Service and the constraints on it.

The purpose of this chapter is to set the scene for the discussion of the research which follows, since it was aimed at practising careers officers. The nature of the context of their work has a major impact on their relationships with their

clients, and some understanding of this context is necessary in view of the emphasis here on making the vocational guidance process more client-centred within current constraints.

THE CAREERS SERVICE IN ENGLAND AND WALES

The historical development of the Juvenile Employment Service, and later the Youth Employment Service, is conveniently summarised in the Final Triennial Report by the National Youth Employment Council (1974). It is therefore not necessary to discuss it in detail here, except to show how present practice has been influenced by the past.

The Careers Service as it currently exists was established by the Employment and Training Act of 1973. This Act made it a statutory responsibility of all local education authorities "to make arrangements for the purpose of assisting persons who are attending, either full-time or part-time, educational institutions in Great Britain other than universities -

- i) to determine what employments will, having regard to their capabilities, be suitable for them and available to them when they leave the institutions, and
- ii) to determine what training will then be required by them and available to them in order to fit them for those employments...".

The Act does not specify how these objectives should be achieved, but does specify the provision of local careers offices and the employment of careers officers. As previously with the Ince

Committee report of 1945, and the Employment and Training Act of 1948, the context was still firmly that of a transition from education into paid employment. However the Secretary of State for Employment was empowered to "make such arrangements as he considers appropriate for the purpose of providing temporary employment for persons in Great Britain who are without employment". Additionally the Careers Service was required to provide employment and training placement arrangements to enable the guidance functions to be carried to a conclusion. Such placement arrangements were, on the direction of the Secretary of State, to be made available to any "who are seeking employment or different employment", which consequently brought university graduates and adult job-changers into the scope of the Careers Service.

The 1980 memorandum of guidance on the Act, from the Secretary of State to the Careers Service, advised that the Service should also be made available to Open University students. These arrangements consequently led to the removal of any age restrictions on the Service, and effectively continued much of the duplication of provision previously on offer. The establishment of the Employment Service Agency in the same 1973 Act had resulted in the setting up of the Jobcentres whose main function was also to provide employment and training placement services. Such services were mainly for those changing jobs, and equally had no age restrictions. As Jobcentres were frequently located in prime site premises they attracted a number of young people who were part of the Careers Service

client group. It has required a good working relationship at local level between Careers Offices and Jobcentres to ensure that no unnecessary duplication of effort is taking place. However the Jobcentres did not deal with the vocational guidance aspect of the work. This was offered to clients out of full-time education by the Manpower Services Commission's Occupational Guidance Units. As will be argued below, the closure of these units in recent years has led to an increase in the number of adult clients seeking help from the Careers Service.

EDUCATION AND EMPLOYMENT CONTEXTS

Roberts (1975) has argued that the way in which the Careers Service has evolved has created a degree of role confusion. In particular he identified the dual contexts of education and employment within which it operates. The Jobcentres have no such problem, since they are firmly based within the labour market.

The original two separate provisions for young people, by the Labour Exchanges and the local education authorities, represented the two different contexts. On the one hand the emphasis is on placement into employment, and the related work with employers; on the other the emphasis is on the guidance process and in making the right choices at the right stage. Roberts' argument is that since the Careers Service has to provide both guidance and placement functions it has lost a sense of positive direction in relation to one or other of these. There is a

conflict of interest between the demands of the labour market on the one hand, and the freedom of individual choice on the other.

For clients however, as shown in recent research by Cherry and Gear (1984), placement into employment is an important area of expectation. Guidance therefore must include a realistic knowledge and assessment of the needs and demands of the labour market if it is to lead to employment. Whilst this may compromise individual choice it does not invalidate the guidance process.

THE CHANGING SITUATION

In order to set the context for the following discussion of the research it is necessary to look at the changes which have affected Careers Service organisation and procedures. In particular the concern is with the way in which increased demands on resources can potentially lead to a less client-centred service.

Since 1973, for a variety of economic and structural reasons, there has been a large increase in unemployment amongst all sections of the available-for-work population. In the case of young people there has been a concurrent increase in the numbers staying on into post-compulsory full-time education.

During this time the Careers Service, in trying to cover an increasing range of responsibilities, has often come under criticism both from employers and from its client group.

Nevertheless it is arguable that by responding to changing circumstances rather than establishing a pre-determined role that the Careers Service has continued to exist. The present government has been looking at the structure and organisation of other employment services including the Jobcentres with a possible re-structuring exercise in view, considering the areas of duplication of resources which may be shown to exist. The role of the Careers Service was also originally to have been the subject of a review, but because the Service was able to respond quickly and in a positive way to the new recruitment and monitoring needs of the Youth Training Scheme provisions this review has been withdrawn for the time being at least.

By demonstrating a creative diversity in responding to the very individualised labour and training markets in different parts of the country the Service may have forfeited a strong national identity. However at the same time it has become more responsive to changing needs at local level.

Even excluding the Youth Training Scheme the demands on the Careers Service have increased since 1973. Initial guidance interviews in schools have shown a progressive increase, when allowances have been made for falling school rolls. In the last few years the statistics published by the Department of Employment Careers Service Branch, in their annual reports on the Careers Service, indicate a move towards more work with groups and an overall slight fall in subsequent individual contacts. However this is balanced by a large increase in further interviews in careers offices once young people have

left school.

Statistics for the Inner London Education Authority's Careers Service, which is the setting for the research discussed in this thesis, show that over 90% of fifth year pupils in schools had at least one careers interview in the 1983-84 academic year.

Both national and ILEA figures show an increase in the number of contacts with parents of pupils, suggesting that many parents increasingly regard the Careers Service as a prime source of help and information. This is particularly so at a time of high unemployment when an increasing complexity of alternatives has developed in employment and training provision. This is also reflected in demands from schools for more allocation of careers officer time.

The progressive increase in demand since 1973 for ongoing help by the unemployed is shown by the number of employment and placement interviews carried out in careers offices. This, and the need for supportive counselling, has been recognised by direct Department of Employment funding of unemployment specialist officers in many areas. There has also been increased pressure on the clerical support staff who run the offices on a day-to-day basis, requiring inter-personal skills equal to those of the professionally trained careers officer.

The number of placements into employment has not surprisingly shown a slight fall in recent years, reflecting the decrease in job vacancies notified. However, if placings into the Youth Opportunities Programme and the Youth Training Scheme are taken into account, the overall placement figures show a continuing

increase. In parallel, contacts with employers have shown a three-fold increase since 1976.

The rise in the number of adults using the Service is reflected in the I.L.E.A. Principal Careers Officer's annual report for 1983-84, which shows an increase of 20% over the previous year to a total of over 5,000.

THE IMPACT OF CHANGE

The effect of all these increases in demand has been a re-assessment in many authorities of the priorities in relation to specific demands. Whilst some local authorities have reduced Careers Service staffing, by up to 10% in some cases, many have expanded provision which has enabled the developments into further and higher education which the all-age Service is required to provide. It cannot therefore be argued that the increased demands themselves have necessarily created difficulties for the careers officer. What has happened is that the range of duties carried out by any individual officer has progressively spread, making it more difficult to concentrate effort in any one direction. Case loads have generally been calculated from the size of the year group currently in the fifth year of secondary schools in a particular geographical area. These have recently shown a decline, which is reflected in the individually lower case loads. However in many areas careers officers are now spending more time with the unemployed, in counselling young people on Youth Training Schemes, and in school work with the increasing

number of young people staying on in education for vocational courses, many of which demand a careers guidance input. Basic case loads do not reflect these additions.

The two main effects relevant to this research have been the move already mentioned away from individual to group contacts, and the development of a number of new approaches to carrying out the work.

INTERVIEWING

The vocational guidance interview continues to be the main situation for contact between the careers officer and the client. Research into the effectiveness of interviewing as a technique is limited and often dated. However a more recent survey by the Careers Service Inspectorate, reported by Bedford (1982), shows that interviewing is of greatest benefit to the more vocationally aware client. Vocational awareness was seen in terms of having some knowledge of the possible alternative courses of action. The interview is then used as an action-planning situation making use of this knowledge.

Earlier research by Jahoda and Chalmers (1963) has shown that the expectations of the interview are frequently quite different for the client and the careers officer, as are the stated outcomes.

The interview is frequently used as an information-giving session, for which it is the least effective situation. Additionally the concern with factual information means that

the time is not often used to explore the more affective aspects of choice. The basic immaturity of many young people in the fourth and fifth years at school means that the one-to-one interview is not necessarily the best way of helping them. No matter how relaxed the interview situation it is not easy to develop a trusting relationship in the course of what is for many a one-off occasion. Bedford suggests that interviewing is best left as late as possible within the constraints of decisions that need to be made.

Additionally careers officers faced with a number of demands on their time, and the requirement to get through interviewing a given number of pupils each year, risk adopting a fixed style which fails to respond sufficiently to each individual.

The move towards more work with groups reflects an awareness of the need for better preparation prior to the vocational guidance interview. In the ideal situation such group work, aimed at increasing vocational awareness, should be part of an effective school or college careers education programme. However such provision is still inadequate in many parts of the country, and careers officers themselves are filling the gaps. It is important in this situation that any group work is carefully planned. To be effective it needs to be seen as part of a coherent guidance package, and this ought to imply a parallel coherent theoretical basis for each part of the programme. Equally the move towards more group work should not deny the importance of individual preparation.

RECENT APPROACHES TO WORK-LOAD ORGANISATION

The Careers Service has tried a number of approaches in order to explore alternatives to interviewing, or ways of making interviews more effective. In particular the organisation of interview case-loads into a priority order based on an initial pupil questionnaire enables some interviews to be deferred. The use of short diagnostic interviews is another alternative which allows for early identification of the likely guidance needs of each individual. This makes it possible to sort out those who share a common information need which is better presented in a structured group situation.

Regular informal 'drop-in' type group sessions in school lunch breaks often provide a valuable way of answering the many brief questions that young people want to ask at particular points in time. They also allow a better relationship between the careers officer and client to develop, because individuals can be seen on a number of occasions and at times when it is particularly relevant to them.

Some of these methods can show a saving of overall time. However, when they are effective, the demands made by young people on careers officers seem to increase, so little time-saving actually results. What time is available is used more effectively, since the client and not the organisation becomes the focus.

Another recent area of development has been in the use of computers to aid or supplement the information previously

explored in interviews. The two packages which are most widely used are Closs's JIIG-CAL (Job Ideas and Information Generator-Computer Assisted Learning) which was developed at Edinburgh University, and Leicestershire Education Authority's CASCAID (Careers Advisory Service Computer Aid). These are discussed in more detail in Chapter III, but are both basically ways of matching information about the individual with a data-bank on occupations. The individual information profile is input from a previously completed questionnaire, and the computer prints out a list of job suggestions to explore further. In both cases there is also a kind of suitability rating in relation to personal interests and abilities. To date the majority of readily available computer packages for careers guidance have been of this matching kind.

In practice there have been three main weaknesses in their use:

- a) the job-files assume an ideal choice situation which makes no allowances for any specific local employment market, although there is often a warning where entry to a specific occupation is limited generally;
- b) the initial questionnaire to some extent assumes that the individual has already defined a number of aspects of work which are personally important, and that the words used by the designers of the questionnaires have the same meaning for the user;
- c) with some packages, such as JIIG-CAL, the amount of administration time needed to complete and process the questionnaires, and the delays involved in batch

processing, make them more suited to the careers education context rather than the individual guidance one.

One way of resolving some of these difficulties is to enable young people to use micro-computers on an individual interactive basis. Further developments in the JIIG-CAL system are being made to produce a micro-based version. A more recent package developed in the independant school sector, and called ISCOM and DISCOVER, uses a micro-computer in an interactive way, but is still a talent-matching approach. Whilst some young people may find new job ideas to follow up, the problem often remains of how to make a choice from the alternatives.

There is a need to explore other applications of computers to the individual guidance process, not necessarily based on a data-bank that needs constantly up-dating. One more recently developed approach uses multi-attribute utility theory, discussed earlier on page 6. This makes use of a computer program called MAUD (Multi-Attribute Utility Decomposition) which was originated at the Decision Analysis Unit of Brunel University. The program is detailed more fully in Chapter III. It is sufficient here to mention that it is designed to help students identify those attributes of jobs which are likely to be most valued by them when making a vocational decision. It does not use pre-programmed occupational data, and is therefore more content free than other packages.

Computers have also had some impact in the area of information processing, but the effect has been more on the methods of

record keeping and job vacancy circulation than on the way in which individual careers officers arrange their work loads.

In contrast one of the changes in approach which has had such an effect, and has led to a great deal of local discussion, has been the decision in many areas to introduce a self-selection job vacancy display system. This has been controversial not least because a more traditional way of working is being challenged, which involved careers officers and their assistants seeing all of their clients on a more or less regular basis to go through available vacancies and to make any interview submissions.

Many careers officers feel that they are opting out of what they see as their professional responsibilities by giving young people free access to all vacancies. The assumption that many employers expect some pre-selection for suitability to be carried out by the Careers Service raises the whole issue of client and employer needs. Yet the time demands, and the increase in unemployment, make it inevitable that some change occurs. More recently the introduction of the Department of Employment's DEMACS (Department of Employment Micro-computer Assistance to the Careers Service) computer package means that most young people in the I.L.E.A. may well be encouraged to make direct contact with employers themselves when notified of vacancies in future.

What has become increasingly obvious from self-selection vacancy displays is that the way in which young people themselves choose vacancies is not always easily explained by vocational choice theory of any kind. The philosophical rationale underlying the talent-matching approach is that the individual's abilities and

interests can somehow be matched to one or two 'ideal' jobs. This philosophy still pervades a lot of careers education and guidance work. The careers officer is therefore expected to make specific recommendations in interview notes which can then be acted upon by careers office staff. Consequently if a young person selects a job vacancy which does not correspond to the recommendation then the organisational system is in difficulties. The careers officer's guidance ability is challenged.

What is missing in much of this is a genuinely client-centred approach which recognises the uniqueness of each individual's decision-making. Some young people want guidance in order to make decisions; others only want help to carry them out. Others still want both, or neither. The careers officer's insistence on professionalism should not become a disabling factor to the client, though it easily can do. We still understand relatively little of the psychological processes involved in making vocational decisions.

THE PROBLEM OF EVALUATION

Trying to establish evaluative criteria in vocational guidance and counselling is extremely difficult. Where attempts have been made to formulate a basis on which the Careers Service itself can be judged in its effectiveness in carrying out its duties, this has inevitably relied heavily on statistical information. The number of interviews carried out each year, for example, says nothing about the quality of guidance, the nature of the

individual client's enquiry or the length of time spent on the interview. It does nevertheless show the extent to which demands are made on the available resources.

Since funding of the Careers Service at local authority level depends on the decisions of elected councillors, such numerical statistics are of prime importance. They are the most easily understood criteria by those who know little of the nature of the work undertaken. Additionally in times of high unemployment cutbacks in resources can be a sensitive political issue, maybe even more at local than at national level. Inevitably the most easily understood statistic is that of placement into employment. However many young people have to go for several job interviews before they are eventually offered employment. The importance of effective guidance and counselling towards appropriate choice is often undervalued in this context.

The problem of evaluation also relates to the definition of occupational success. Job changing has become identified as a problem and not, as Roberts has more usefully suggested, as an attempt to find increased job satisfaction within the available limits. Research has concentrated on two areas: whether receiving guidance or not results in more or less occupational success subsequently, and whether this success depends on following any advice given.

Most earlier studies such as Burt (1926), Earle (1931), Hunt and Smith (1944) and Handyside and Stott (1958) supported guidance as beneficial. However as Clarke (1980)(b) has argued, there are problems of definition as well as methodology, not

least the fact that setting up control groups who receive no guidance at all is ethically questionable. Other studies such as Cherry (1974) and Thomas (1979) each compared one group who had followed the recommendations of guidance with another group who had not. Using a criterion of job stability in terms of length of time spent in the first job, Cherry found that the group who followed advice were more successful than the group who did not. Thomas found less strong evidence. He suggested that success may be more related to 'vocational maturity', which is a measure of knowing what one wants to do. More recent work by Cherry and Gear (1984), which used a number of factors to develop a 'vocational maturity index', showed that those who had lower scores on the index were likely to experience "significantly higher levels of unemployment in the first months of work". Whilst they did not look specifically at individual careers guidance, they concluded that involvement of careers officers in planning school careers education programmes did have an effect in increasing this maturity:

"It thus appears that the approach young people take to leaving school and starting work can be demonstrably influenced by those responsible for careers preparation, and that the perceived needs of the young people themselves may be an indication of the problem they will have in the first months of leaving school."

The pressure for more work with unemployed young people undervalues preparatory and preventative work in schools.

THE CAREERS OFFICER AND OUTSIDE INFLUENCES

So far the emphasis has been on the vocational guidance situation, and the work of careers officers within the Careers Service itself. However there are also other organisations which have a large influence on the way in which the work is carried out. Two of these are of particular significance.

The first is the Department of Employment, and its employment and training arm the Manpower Services Commission. Government legislation and policy administered through them often has a direct impact on Careers Service operational procedures. In recent years the MSC has expanded in staffing, in budget, and in independence of operation. It has developed provision for the unemployed such as the Youth Training Scheme and the Community Programme, and initiated controversial moves into education by direct funding of the Technical and Vocational Education Initiative (TVEI). The Careers Service has had to re-assess priorities in relation to these, especially the degree of involvement needed to carry out the MSC's recommended monitoring and counselling arrangements in relation to the Youth Training Scheme. In addition the closure of the MSC's Occupational Guidance Units, which left adult clients with no alternative source of guidance other than the Careers Service, has resulted in an increase in the number of adults seeking advice. The Service has responded by developing new expertise and information sources appropriate to advising older clients.

Secondly the other organisations which influence most careers officers' work are the schools and colleges in which they operate.

The degree of organisational efficiency, and the absence or presence of careers education programmes, are often significant factors in how effective the individual officer is able to be. Poor organisation leading to interviews missed by young people results in time wasted. Low priority given to careers education and guidance work, and inflexibility in the organisation of such programmes where they do exist, make it almost impossible to improve the service to those who need it. Cherry and Gear (1984) showed that careers officer involvement in the planning of careers education programmes could have a significant impact on vocational maturity. Maybe at the same time such greater involvement itself reflects a higher priority given by the school or college and therefore leads to increased flexibility and more effective work. As Bedford (1982) concluded, the most effective interviews are those where a young person has greater vocational awareness, gained among other things from good careers education programmes.

In situations where the careers officer is attempting to fill the gaps in careers education and preparation, there is a need for the development of an effective aid to this which does not demand increased time or staff allocation. Additionally the valuable involvement of careers officers in planning the careers education programme is dependent on developing ways of accurately identifying needs and ensuring the relevance of subsequent plans to each individual young person.

Both of these aspects are considered in the research programme later.

CAREERS INFORMATION PROVISION

One further influence on careers guidance work, less direct but no less important, is that of the provision of up-to-date and accurate careers information. The careers officer's professional credibility is very much linked with an information-giving role. Undoubtedly a major source of current information used in careers education and guidance is the Manpower Services Commission's Careers and Occupational Information Centre (COIC). With regular updating, and a national distribution system, their materials provide the basis for most school, college and careers office information libraries. In particular there are many attractively produced publications aimed directly at young people themselves. In institutions where such information is readily available there has not only been an improvement in the quality of guidance being given, but also a change in working procedures. There has been a move away from careers officers and their assistants having to send out quantities of information to individual young people. Instead the emphasis is now more on encouraging them to learn how to use the information available, and how to find out more for themselves from other sources.

COIC have also moved into the area of computer software provision, but away from the matching-people-to-jobs approach. The recent RESOLVE program is an aid to decision-making, and as such the emphasis is on an individual learning situation. It is discussed further in Chapter III.

RELATING PRACTICE AND THEORY: SOME IMPLICATIONS FOR A RESEARCH PROGRAMME

It is necessary now to draw together some of the points which have been made in this chapter in order to consider their implications for the planning of the research programme.

Firstly it has been argued that careers officers in general tend to ignore much of the theoretical basis for vocational choice because of the number of individuals who are exceptions to it. A different approach is required if any theoretical base is to be acceptable to practitioners. Kelly's (1955) personal construct psychology would seem to have some potential in that its primary focus is on the individual and not the context.

Secondly, any theory is only of use in so far as it can be put into practice. Kelly conveniently offered a practical aid to applying his theory in a form which is generally known as the repertory grid. This approach could easily be applied in the vocational guidance situation, offering careers officers a practical tool.

Thirdly the organisation and time restraints in the Careers Service, combined with the newer approaches to working, and in particular the increasing use of computers, suggest that any research should follow this lead. The application of computers offers potential for better use of time, and for individual exploration of ideas it can be considerably more client-centred than the client-counsellor interaction. This is not to underestimate the value of such an interaction in addition.

These points have all been taken into consideration in the planning of a pilot investigation, and the details and results of this are the subject of the next chapter.

III

INTRODUCTION TO THE RESEARCH PROGRAMME, AND THE PILOT STUDY: DESIGN, RESEARCH ACTIVITIES AND DISCUSSION OF RESULTS

INTRODUCTION

Brief mention was made in the previous chapter of the use of repertory grids in vocational guidance and job placement. Repertory grid technique evolved from the Role Construct Repertory Test devised by George Kelly (1955) as one of several practical ways of using his personal construct psychology. Kelly suggested a list of individual roles of people who might be important to a client such as mother, father, same sex friend, opposite sex friend, liked teacher, disliked teacher and so on. These were then presented three at a time to the client, who was asked to say in what way two of the three were alike and different from the third. This discrimination Kelly called a construct. A construct is a way of describing some aspects of the elements which are the subjects of the descriptions, whether people, situations, objects or any other categorisations. The resultant elements and constructs form the content of the grid, which can be analysed to reveal underlying relationships in an individual's thinking. Subsequent to Kelly's work some different grid forms, such as Hinkle's (1965) implications grid, were developed.

Previous research using construct theory and grids is reported by Gould (1976), Edmonds (1979), and by Smith, Hartley and Stewart (1978). Gould details work that was carried out by the Employment Service Agency to try to match unskilled adult jobseekers more effectively to job vacancies. This was done by eliciting from clients some of the constructs which were important to them in choosing jobs. Employers were also asked to provide constructs relating to their perceptions of the kind of person needed to carry out a particular job, given that all of the vacancies were of an unskilled nature. A list of constructs was drawn up from those which were elicited in the initial research, and a composite list was subsequently used to try to match client expectations more closely with specific job vacancies. Whilst the experiment seems to have led to improved matching as far as both clients and employers were concerned, the use of a pre-determined construct list compromises the uniquely individual nature and potential of the repertory grid.

Edmonds (1979) reports on Training Services Agency work which used individual grids to match adult clients to re-training opportunities. However many of the constructs produced were regarded as representing more of a social consensus about jobs rather than being personally relevant to each individual.

Smith, Hartley and Stewart (1978) discuss the grid as a guidance aid, and their detailed case study of a university

student exploring his own attitude to a course change by this means became a starting point for the research detailed in this chapter. For their purposes Slater's INGRID computer package was used to analyse the grid. This program was not interactive, and produced a large amount of print-out which was difficult to interpret without specialist knowledge. Their conclusions included potential areas for further research, particularly in relation to the age at which coherent work-related constructs develop. Since this and the other previous work had been carried out with adults, either job-changers or in higher education, a specific focus of the current research was to be the use of grids with school leavers.

1.2 OUTLINE RESEARCH PLAN AND ITS GENERAL PURPOSE

The initial idea for a research project evolved in response to some of the difficulties experienced by careers officers which were outlined in Chapter II. The repertory grid seemed to offer a guidance aid that was potentially more client-centred in that it did not require either a database or any kind of prescribed norming. Equally it had the potential for more effective use of the time available within the Careers Service organisational and financial restrictions.

The main purpose of the research was to assess how useful the technique was in general in helping young people to

make vocational decisions. By adopting an initially open-ended approach it was considered that the areas for greatest subsequent development potential could be identified. The areas for ongoing research could be narrowed down at a later stage. The careers officer as counsellor was intended to be the main user of the information gained. Young people would benefit indirectly as a result of increased counsellor understanding of their individual perspectives.

A second quite different purpose of the research is that associated with new technology. In 1980 the rapid expansion in the general availability of personal micro-computers had only just started. The Careers Service as a whole however was looking at the obvious potential applications of computers to various aspects of its work. The previous research mentioned above has shown that using repertory grids in interviews is very time consuming if done as a manual process. The use of a computerised grid program allows more sophisticated use and potential time saving. In addition it offers immediate feedback and analysis which is attractive to the user. It was logical therefore to design the research with computer use in mind from the outset.

1.3 SPECIFIC AIMS

The research initially had three aims:

- 1 to develop a practical aid for the Careers Service in guidance with young people;

- 2 to develop an aid that could be shown to achieve an improved level of client guidance without the need for additional staff;
- 3 to demonstrate that such an aid is more cost-effective than a longer initial interview.

1.4 LOCAL CAREERS SERVICE CONTEXT

In order to ensure the relevance of the research to the work of careers officers it was carried out within the Careers Service of the Inner London Education Authority. Permission for the project was requested from the I.L.E.A. Research and Statistics section in view of the anticipated contact with school pupils which would be necessary.

The I.L.E.A. Careers Service is the largest local authority Service in the country, employing more than five hundred staff, about half of them professionally trained careers officers and the remainder office support staff. The Service is administered centrally, but it is divided into ten semi-autonomous areas. These divisions correspond in most cases to the boundaries of individual inner London boroughs. The research took place in Division 10, the London Borough of Wandsworth. This is amongst the largest of the London boroughs both in terms of geographical area and population (about 263,000). The number of young people eligible to leave full-time education and enter the labour market each year was at that time around 3,000. However

between 32% and 38% of this group each year stay on at school, and another 9% to 11% go on to full-time courses at further education colleges.

1.5 THE NEED FOR A PILOT STUDY

It was decided that, in order to test the feasibility both of using grid technique generally and computer facilities in particular, a pilot study would be carried out. Since the eventual aim was to extend any aid that was developed for use by careers officers as a whole it was essential to identify and solve any difficulties that might occur at an early stage.

A limited investigation, but within a real vocational guidance situation, would reveal any potential for improving guidance within normal Careers Service resource constraints. It would also identify any changes that might be needed to improve any subsequent use of the approach, and in particular the potential for extending the use of grids into a wider context of personal construct theory.

2 DESIGN OF THE PILOT STUDY

2.1 CRITERIA FOR ASSESSMENT

It was the intention to use subjective feed-back both from pupil users and careers officers. Assessment of the

usefulness of the process in general terms, and the identification and correction of any problems arising in use, would result from this feed-back. The following points would be looked for in the pilot study results:

- i) more job titles elicited where few jobs had been mentioned before;
- ii) evidence in subsequent interviews of a new approach to thinking about jobs, or a new ability to verbalise ideas and clarify them in talking through constructs;
- iii) evidence of more effective use of interview time, either in terms of time saved in eliciting information which the grid provides, or reaching a more perceptive level of conversation on the part of the client.

A twofold approach to assessment was adopted. Firstly some overall basic quantitative results were selected. These included both the number and range of elements and constructs elicited from all individuals. Secondly a small number of detailed individual case studies were to be written up in order to assess different usage styles and purposes. These would also aid identification of any problems involved in language use and comprehension of instructions in the program.

Some of these case studies have been included later in Appendix 6.

2.2 DESCRIPTION OF THE GENERAL CLIENT GROUP

The words 'client' and 'young person' are used interchangeably. For the purposes of this research they can be defined specifically as follows:

- a) school pupils, male and female, between the ages of 14 and 16, in the fourth and fifth years of secondary schools; representing most levels of ability, and in the process of making choices about future employment or continuing education;
- b) 17 and 18 year-olds in the sixth year in school, who have stayed on for a further one or two years of study, but whose courses are below the level of the General Certificate of Education at Advanced level;
- c) other young people between the ages of 16 and 19 who have recently left school or college and who are unemployed and looking for work.

2.3 SELECTION OF THE EXPERIMENTAL GROUP

Three schools would be used for the pilot trials. These would consist of one all boys school, one all girls, and one mixed.

The initial selection of young people for the pilot trial was to be done at the preliminary careers interview stage in school. These were to be identified as having difficulties in verbalising ideas and preferences about

jobs and in making committed choices. In the majority of cases they would have indicated, either on questionnaires completed before the interview, or verbally during the interview itself, that they were intending to leave school and would be seeking employment. It would also be assessed in each case whether the individual was at a stage of being willing to be given help in this decision-making process. This is in contrast to those who might be unwilling or unable to be involved in the process at that point in time. This was necessary since using the grid program would require going to the local careers office during school holidays in order to gain computer access.

No pre-selection would be done on academic ability level. Consequently the full range of ability expected in any comprehensive school should be represented. It should however be stated that since most of the pilot trial group would have indicated a preference for leaving at the earliest opportunity on reaching statutory school leaving age, it is likely that they would mostly be at or below the average ability level.

2.4 THE CONTROL GROUP

In order to provide a basis for comparison an equal number of young people were to be identified in the same way.

They were to be chosen at random from the overall list of those who were eventually considered suitable for

inclusion in the pilot trials. The choice was to be made after the programme of general careers guidance procedures had been completed in order to avoid any effect on such procedures which might arise from identifying the group in advance. Comparison of any two such groups is difficult because criteria of success in vocational guidance are virtually impossible to establish. In addition the pilot trial group would receive more attention as a direct result of the research and this would inevitably have some effect. However it was decided that some comparison of the two groups would provide useful pointers to further work in the research.

2.5 EQUIPMENT AND MATERIALS

A) HARDWARE

The resource needed to run an interactive computer program was introduced for quite a different purpose to the research. In order to improve the service to clients, by speedier circulation of job vacancy details, a computerised system was introduced. This involved use of facilities on a mainframe computer at the City of London Polytechnic. On-line access time was shared with the I.L.E.A. schools computer service. Each careers office in the I.L.E.A. area was provided with a printer terminal linked to the computer by means of a telephone and modem.

With this facility it was therefore possible to arrange access, through the local terminal and telephone link, to the Open University computer in the London region. In this way the Open University's 'KELLY' computer program could be used in the local careers office.

B) SOFTWARE

i) Choice of computer program

The choice of a suitable computer program was largely dictated by availability. The criteria which were looked for were:

- a) the program must allow for interactive use by the client;
- b) the program print-out should be easy for any client or careers officer to use in subsequent interviews;
- c) the program should be 'user friendly' with simple to follow instructions.

The resources available discussed above also influenced program choice. The research proposal was eventually based on the use of the Open University 'KELLY' program, written for use in the D305 Social Psychology course, and itself developed from a program produced

at Brunel University. It fulfilled most of the criteria above and was readily available. Only one other program was seriously considered for use: this was Shaw's PEGASUS (Program Elicits Grid and Sorts Using Similarities). This fulfilled all of the criteria and allowed greater flexibility of use, but the financial cost was not available for the pilot trials.

As micro-computers were not widely in use at this stage, any other alternatives used a main-frame computer system with batch processing of forms or cards rather than allowing for interactive use by individuals. The only such system which was in vocational guidance use by a number of local authority Careers Services was CASCAID (Careers Advisory Service Computer Aid), developed by two careers officers in Leicestershire and made generally available in 1971. It is aimed at more academic young people, and particularly those of GCE 'A' level potential, and uses an occupational interests questionnaire as its basis. The eighty items in this include the use of specific relevant areas of knowledge such as physics, and creative abilities such as art; more general activities involved in a number of jobs such as 'collect, classify and store information' or 'help others with their personal or social problems'; and some items relating to working conditions, including 'be outside in all weathers' and 'wear a uniform'. These items are all rated from 'like very much' to 'dislike very much' on a scale from 1 to 5. There are further optional sections on

preferences about full or part-time continuing education, and health factors which might affect job choice. Finally the student lists educational qualifications already gained, and those to be taken. Questionnaires are then batch processed in Leicester to match student preferences with the occupational data-base on computer, providing a print-out of job suggestions which are categorised as good, fair or poor matches. The print-out clearly shows the basis on which the matching is done.

Subsequent to the start of the current research, Closs's JIIG-CAL (Job Ideas and Information Generator - Computer Assisted Learning) became available, but designed for use within a planned careers education programme rather than for 'one-off' use by careers officers as with CASCAID. It uses a version of the earlier APU Occupational Interests Guide devised by the Applied Psychology Unit at Edinburgh University, with six sections covering levels of academic entry from no qualifications to degree level. Students choose two consecutive categories each including fifteen pairs of activities involved in jobs at the selected entry levels. Every activity is rated on a 'dislike', 'don't mind' or 'like' scale before a forced choice from each pair is made. The first stage of computer processing gives an interests profile, broadly divided into six occupational categories. After consistency checks on this profile, further input on working conditions, specific abilities, school subject interests and health factors leads to a

print-out of job ideas and suitability ratings.

In the present context, with emphasis on helping individuals to understand the process of personal decision-making, a more useful approach is that of the Careers Decision Aiding System (CDAS) from the Decision Analysis Unit at Brunel University. This is based on the computer program MAUD (Multi-Attribute Utility Decomposition) which uses a repertory grid elicitation procedure, but within a context of multi-attribute utility theory (see page 6). The user has to describe similarities and differences between random triads of the choice options being considered, and to use these descriptions as criteria on which to rate the relative attractiveness of each choice. Information input can be changed if new insights occur whilst using the program, and the resulting print-out gives an overall preference order derived from the ratings.

SELSTRA is a second computer program which provides more specific help on choice factors which might be considered, and is the basis for a recent package from COIC (see page 37) called RESOLVE. The user decides on the choice options for consideration, and is then given three factors to apply to the choices: risks, rewards and lifestyle. Any of these can be replaced by the user if they are inappropriate, and each can then be broken down into further sub-factors. For example, in relation to choosing a job, rewards might be divided into job satisfaction, money and status. The user then rates the importance of each of these on a 1 to 9 scale, and also the attractiveness of each choice in relation

to each of the factors and sub-factors. The program then re-composes these ratings into an overall preference ordering for the choice options.

The RESOLVE program might have provided a viable alternative to the KELLY program if it had been available at the beginning of this research. It is more concerned however with helping the process of decision-making within the context of decision theory, rather than providing an insight into the individual psychological processes and the way they influence decisions. Personal construct theory was chosen as the context here because it does have the potential for providing such insight, and the KELLY program is a way of achieving it.

ii) Description of the KELLY program

The repertory grid consists of elements, which are the subject matter, and the constructs, which are the various similarities and differences which the individual perceives between the elements. At the start of the KELLY program the user is asked to define what the elements are to be, how many are to be used, and then to type them in. The computer then generates random triads of elements to elicit each construct. The user is asked to select one of the triad as the odd one out, and to "type a

short description of how the two resemble each other and differ from the third." As a description of "how the odd one differs from the pair" the opposite pole of the resulting construct must be input.

Each element is now rated on a scale from 1 to 5, representing the opposite poles of the construct. Before continuing the program offers the opportunity to change any of the ratings.

A succession of element triads are now presented in the same way to elicit further constructs. The program is interactive in that any very high element or construct matches, determined as a kind of correlation between the ratings input, are fed back to the user. At such a point there is a choice of options. If the match is between elements then a new construct can be input which would separate the elements as widely as possible on the rating scale; if between constructs a new element can be input which would similarly split the constructs. In both cases the alternative offered is to replace the two elements or constructs with a single one, accepting that the high match represents an unnecessary duplication.

The program continues to feed back high matching scores until a certain pre-determined maximum level of score is reached for all elements and constructs. The user can continue to get further random triads,

and continue to input constructs until the limit of program memory space is reached, this having been defined at the beginning.

At this point the program prints a summary: element list, construct list, grid of ratings input, and element and construct matching scores. The user is asked to decide whether to have a cluster analysis of elements only, constructs only, both or neither. If requested this is printed in both a numerical and a more visual form. An example of the print-out appears as Appendix 2.

iii) Instruction booklet

An instruction booklet was prepared in order to explain how the program worked. This included some practical activities to be carried out before using the computer. The completion of a list of jobs to use as elements, and a practice example of elicitation and scoring of a construct from a triad selected from the job list were part of these activities. A copy of the booklet is included as Appendix 1.

3 PROCEDURES

3.1 JOB CHOICE EMPHASIS

The grid was initially seen as an additional approach to the problem of trying to match clients to jobs. In order to limit the focus of the pilot trials it was decided only to use the grids for this purpose, and consequently the elements of the grid were all job titles chosen by the individual.

3.2 PROVIDED AND ELICITED ELEMENTS AND CONSTRUCTS

Each grid consists of a number of elements which provide the starting point for elicitation of constructs: ways in which the chosen elements are seen as being alike or different from each other. For the purpose of the pilot trials it was decided that to provide any elements or constructs in advance for the user was likely to reduce the effectiveness of the grid in trying to find out how any particular individual thinks about jobs. In addition the limited job knowledge of some young people could lead to other difficulties if some of the elements were jobs they knew nothing about.

In contrast it was anticipated that other young people might not have a sufficiently contrasting range of elements to elicit their relevant constructs easily. This would therefore be part of the pilot results analysis.

3.3 FIELD WORK

A) THE PILOT GROUP

The pilot trials were eventually carried out between July 1980 and September 1981, involving a total of nineteen young people. Because of changes in Careers Service staffing and schools allocation during the period of the trials, only two of the three original schools were used: the boys only and the girls only. An additional consequence was that only two of the nineteen in the pilot group were girls.

B) CAREERS GUIDANCE PROCEDURES

As the majority of the group attended the same school it is relevant to outline the general careers guidance programme which formed the context in which the grid program was used. As a result of the way in which the careers teacher's role had developed as a part-time post within the school there was no timetabled careers education programme. This was seen as a potential advantage in relation to the research, as it removed what is often a significant influence on the thinking of young people, and therefore on the development of their construct systems. Any such development due to the use of the grid program alone could be more easily identified in this situation.

All of the pilot trial group from the boys only school would have experienced some or all of the following elements of careers officer input:

- i) introductory group talks to pupils at the end of the fourth year to explain the procedures, talk about the local and London job situation, consider the alternatives of choice relating to further education and so on, and to complete a basic information questionnaire prior to interviews;
- ii) an initial short diagnostic interview of about ten or fifteen minutes at the beginning of the fifth year, to identify the likely ongoing guidance needs of each pupil; at which stage those suitable for inclusion in the pilot trial group were identified, using the criteria specified above in section 2.3 of the pilot design;
- iii) longer individual guidance and counselling interviews as appropriate, normally half an hour, at various stages during the year. Those who took part in the pilot trial would have one or more such interviews as part of the grid follow-up and discussion. In the case of pupils of GCE 'A' level potential who were intending to stay on at school these would be interviewed by the Advanced Course Specialist careers officer;
- iv) a series of group talks on specified occupational areas to provide further information and addresses

for applications to those pupils who already have some clear and realistic job choices; allowing for exploration and discussion of the more affective and interactive aspects of jobs;

v) general follow-up and job placement help whilst still at school, and subsequently through the careers office;

vi) a weekly lunch time open session throughout the year in the school careers room; this was open to boys from all years in the school enabling them both to search the available careers literature and to ask the careers officer questions. The informality of the sessions provided for expression and exploration of ideas that do not always arise easily in an interview situation.

Those eventually selected for the pilot trial group were invited on an individual basis to visit the local careers office during one of the school holiday breaks, to use the repertory grid computer program. Subsequently the print-out was used as the basis for further guidance interviews.

C) USE OF INSTRUCTION BOOKLET

The instruction booklet was given or sent to each user a few days before going to the office. This was to allow time to carry out the practical activities and to get some idea of the way the program operated.

D) PROGRAM USE

Access to the computer terminal required that the young people involved should call into the careers office during the school holidays. This had the advantage that there were no time pressures as in school. Most users had no problem with the grid program once the basic purpose was understood. However there were some occasions when extraneous print-out caused by telephone line interference led to confusion. On one or two other occasions the computer was not accessible at the time the young person was present, and a system fault on a single occasion meant that the program had to be abandoned before completion of the grid.

It was standard practice to get immediate reactions from young people after completing the grid, about how they felt about doing it and how it might have increased their awareness of their own thinking. Further guidance interviews to discuss the grid in detail were normally arranged back in school a few days later in order to allow each user time to look at the results beforehand, except where return to school from the holiday break was some way off. In these cases interviews took place immediately in the careers office.

3.4 FOLLOW UP

Some planned follow-up of all young people involved in the

pilot trial, including the control group, was included. This was to be in the form of basic destination information as to whether they remained at school, went to college, entered employment or were unemployed. Additional details of the college course entered or actual job taken would provide some comparison with ideas discussed at the stage of completing the grid.

A more detailed standardised Careers Service questionnaire would be sent to those used as case studies who had actually gone into employment. This was particularly concerned with the degree to which a young person's expectations were being fulfilled by the job they had entered. This information might provide some idea of the development of new constructs as a result of experience in work.

4 THE RESULTS OF THE PILOT STUDY

4.1 PILOT TRIAL GROUP

The year group and academic ability level of each of the nineteen in the pilot group are given in tabular form below:

potential for:	4th year	5th year	6th year	unemployed
'A' levels	1	1	-	-
some 'O' levels	-	6	2	1
CSEs only	-	8*	-	-
	1	15	2	1

* includes the two girls

4.2 CONTROL GROUP

An equal sized and academically matched control group were selected once the usual guidance procedures outlined in 3.3 above had been completed. The group were chosen as a random selection of names from the lists of all young people seen in school and from which the pilot study group had been drawn. The same criteria of age, and uncertain or confused careers intentions were used to produce a group which were as closely matched as possible to the user group.

The percentage of the control group who subsequently stayed on in full-time education (63%) was higher than that for the user group (42%). Some comment on this result is given in section 5.3 below.

4.3 QUANTITATIVE RESULTS

A) ELEMENT USE

The total number of jobs input as elements was 138, and represents an average of 7 elements per user. The possible minimum was not used at all.

The jobs have been categorised in a general way to indicate the variety. The number of distinct jobs in each category is as follows:

engineering and technical	7
medical and related	5
social service and related	7

(contd)

general public service	14
office based	14
travel and transport	9
general manual, practical	
and outdoor	9
miscellaneous	8

The number of separate job titles is 81. Only 16 of these occurred twice, and only 13 three or more times. The highest were electrician and policeman which each occurred 7 times.

B) CONSTRUCT USE

A total of 125 constructs were elicited in the pilot trials, although allowing for identical or very similar use by more than one person the number of different constructs was 94.

The constructs have also been grouped into very generalised categories, and are as follows:

- i) academic and personal entry requirements 3
- ii) general or specific skills needed for
entry, or involved in the job 10
- iii) training involved 3
- iv) general working situation and place of
work, including travel to and on the job 20

(contd)

v) various working conditions such as pay and hours	12
vi) personal and job related responsibility	10
vii) individual and team work comparisons	6
viii) degree of public contact	10
ix) other unclassified	24
x) inappropriate or inconsistent	27

The construct 'indoors - outdoors' or its variations was used by a number of young people: a total of 12. This is included in category iv) above. There were 6 occurrences of the construct 'work alone - work with others' in category vii). Both of these had been provided as construct examples in the instruction booklet.

C) RELATION BETWEEN ELEMENTS AND CONSTRUCTS

A rank order correlation of 0.28 between the number of elements used by each individual and the resultant number of constructs elicited from each (excluding any identical constructs appearing more than once in any one grid) indicates that there is no significant relationship between these. For example one of the users with 13 elements produced only 6 separate constructs (but several repetitions), whilst two users with 6 elements produced 10 constructs each.

5 DISCUSSION OF RESULTS

5.1 DIFFICULTIES EXPERIENCED DURING THE PILOT TRIALS

The difficulties which arose during the pilot stage of the research were basically of three kinds:

- a) organisational
- b) technical
- c) individual.

The organisational difficulties have already been indicated in that only two of the three original schools were used, as a result of case load changes in the Careers Service at local level. Additionally the girls school was only involved for part of the trial period. Since the timing of the careers interviews was different to the boys school, insufficient girls were identified early enough to be involved.

The technical difficulties were partly the result of the choice of location for the computer terminal in the careers office, and partly the telephone and modem link to the Open University computer in London. The terminal in the office was sited in a downstairs room which was inconveniently situated for easy supervision from elsewhere in the office. Consequently keeping a check on any young person using the computer was time consuming. Secondly a number of recurring technical faults including telephone

line interference with the computer link, computer break-downs and access difficulties, meant that almost constant supervision was needed. This defeated the object of being able to leave users on their own to work through the program.

Individual users experienced a number of problems with the program itself. Part of this was due to the language level, in view of the fact that the program was written for use by adult Open University students. The other problems are summarised here and discussed in Chapter V, where the program changes are presented.

The main points were:

- i) the feed-back of element and construct matches often created a sense of frustration, particularly when the same element match was repeatedly presented;
- ii) there was some misunderstanding of the deletion aspect of highly matched pairs of elements or constructs, where a single new verbal label had to be introduced to replace two others;
- iii) the inability of the young person to think of a new construct to split highly matched elements meant that it was not possible to continue;
- iv) not enough elements were introduced initially in many cases, since although the number of constructs elicited was not related to the number of elements input, it seems that an initially wider range of elements can help those who find most difficulty in thinking of suitably discrete constructs;

- v) there were several points in the program where incorrect input could not be computer checked, or subsequently altered by the user, and there was a need for such checks to be written in to ensure that instructions were correctly carried out;
- vi) where 'ideal job' was suggested as an element it had to be included in the initial list, and this created problems of definition if it appeared in the first few triads presented for elicitation;
- vii) the original instruction booklet was not always properly read or understood, but equally the instructions in the program were insufficient alone for the booklet to be dispensed with;
- viii) triadic sorting appeared difficult for some young people in that it requires the simultaneous manipulation of both similarities and differences between the pair and the single element;
- ix) difficulties with incorrect ratings in relation to construct poles.

5.2 VALIDITY AND RELIABILITY

Researchers are often concerned with the issue of how to convince others that the findings of their research are worth taking seriously. This is generally achieved by establishing criteria of internal and external validity, reliability and objectivity.

However, Kelly argued that validity and reliability do not have the same meaning in relation to repertory grids as they do in relation to other more usual examples of psychological testing. Readers particularly interested in these aspects are referred to Bannister and Mair (1968) and Fransella and Bannister (1977) for detailed discussion, but some comment is appropriate here in relation to the pilot trials.

Kelly argued that validity refers "to the capacity of a test to tell us what we already know". Fransella and Bannister suggest that usefulness is a better way of looking at validity: whether the grid is able to "effectively reveal patterns and relationships in certain kinds of data". In addition face validity for the user is an important measure of effectiveness, particularly as grids are not tests in the usual sense. It is sufficient here to say that the pilot trials showed the computer-based grid elicitation to have high face validity with the young people involved.

As for reliability Kelly defined this as "that characteristic of a test which makes it insensitive to change". Personal constructs are constantly changing and consequently one would expect normal measures of reliability to be unsuited to grid evaluation. However research discussed by Bannister and Mair (1968) has shown that such measures can be applied effectively both to certain aspects of grid use and structure, and to content in relation to core construct stability. Since there has not been any repetition of the grid elicitation with any young person on a subsequent occasion in this research, it

is not possible to comment on aspects of consistency in individual grids.

If the usual measures of validity and reliability are less relevant, then another method for assessing effectiveness is needed to replace them. This is offered by the 'special criteria for trustworthiness' which Lincoln and Guba (1985) discuss in relation to the naturalistic approach to research. Naturalistic enquiry emphasises the 'multiple realities' which are involved in human behaviour, and consequently rejects the contrived experimental situation in favour of a real-life context. This in turn implies a different approach to research design and implementation.

In addition Lincoln and Guba replace the conventional criteria of internal and external validity, reliability and objectivity. In naturalistic enquiry these are credibility, transferability, dependability and confirmability. The aim is to provide alternative means by which other researchers can judge whether any research findings are reasonable and justifiable in relation to the design and implementation in a particular context. By use of an 'audit trail' it is possible to work back step by step to see if the conclusions follow logically from what goes before.

Although the current research was not planned from the outset within a naturalistic framework, the way in which it evolved, and the awareness that a conventional control group was of little value in a construct theory context, makes a number of these aspects of particular relevance to this

and any similar or follow-up research. Readers who are particularly interested in the ideas of naturalistic enquiry and its implications are referred to Appendix 7 which offers a detailed summary and discussion.

5.3 THE ROLE OF THE CONTROL GROUP

In most conventional experimental situations a control group is established for comparison purposes, in order to help identify those factors which result in changes occurring in the experimental group. By attempting to match both groups as closely as possible at the selection stage, and by controlling all of the factors or variables which are common to the two groups, it is assumed that identifiable changes which occur in the experimental group can reasonably be attributed to factors which are introduced into this group alone and not the control.

The emphasis in such an approach is on trends in behaviour within a group which can be related to specific variables. In contrast to this both personal construct theory and naturalistic enquiry reject the controlled experimental situation in favour of a real life one, where the emphasis is on the numerous and largely uncontrollable factors which have to be taken into consideration in behaviour. The focus is the uniqueness of the individual and the way in which these numerous factors bring about individual differences in the way people behave. In such a context the control

group becomes increasingly irrelevant, as was the case in the present research. Although some difference between the pilot and control groups was identified in 4.2 above in terms of the higher control group number indecisively staying on in full-time education, this could be reasonably attributed to the extra help which the pilot group received when trying to make more positive decisions. Such a difference does not really tell us anything about the individual factors involved. As a result it became more useful to compare individuals rather than groups, and in particular through case studies to look at specific young people before and after using the grid. Such comparisons provide much more useful evidence for the value of the grid technique than do generalisations extracted from comparisons of pilot and control groups.

5.4 GENERAL USER REACTION

Undoubtedly the subsequent interviews with members of the pilot group support the grid experience as helpful to most of them. They were asked for an initial response as to what they felt generally about using the program, and then for more specific comments on problems experienced, whether or not they got bored with the procedure, and reaction to using the computer. Several of the group said that whilst finding it difficult to put ideas into words, doing so had made them more aware of their own thinking about work.

They had not previously thought through the process of job choice in such an analytical way. Only one young person felt that he had not learned anything new from this, but had enjoyed using the grid program anyway. All the users when asked for reactions were positive about finding the experience interesting and enjoyable. None of the group seemed to have found the repetitive nature of the elicitation process boring, and this is reflected in the fact that they all went on beyond the minimum number of constructs required by the program. Additionally quite a few of the group had not previously had the chance to use a micro-computer in such an interactive way, and this novelty value was also reflected in their responses.

There was some variation in the degree to which individual users were willing or able to respond to the implications of their grids, particularly where pre-conceived ideas about possible 'ideal' jobs were openly challenged. Some of the group, whose construct systems were rather undeveloped, did not progress very far within the process of a single grid elicitation and a perhaps somewhat inconclusive interview. These individuals could probably have benefitted from more long-term counselling and repetition of grid use.

Another aspect of user reaction to be considered is that of the degree of satisfaction experienced in the vocational guidance process. Whilst some increase in satisfaction might be attributed to the increased amount of time spent with individual users in comparison to the time spent with

those in the control group, subsequent comments support the conclusion that the grid played a significant part. Further time spent in interviewing alone would not have been seen as very useful by many of the young people involved. There was also an increased ability to cope with outcomes which were inconclusive, as there was at least some feeling that progress had been made in the decision-making process as a result of grid use.

In terms of the extra information gained using the grid, and increased understanding both on the part of the clients themselves and in the client-counsellor relationships, the user group contrasts strongly with the control as there were important gains in both of these areas, evidenced in the grid contents and in the comments made by young people in subsequent interviews.

Whilst use of the grid did not appear to create any major problems for most users, provided help was available if needed, the instruction booklet proved ineffective as an introduction. There seem to have been two main problems associated with the booklet which were:

- a) the need in several cases to re-explain some aspects which had not been properly understood;
- b) the fact that several users either forgot to bring the booklet with them to the careers office, or had not read it properly beforehand, if at all. In some cases the job list had not been completed and had to be done on arrival.

5.5 CASE STUDIES

Several detailed case studies were written up after the pilot trials to illustrate different user purposes and styles. Both the case studies and the other pilot trial results indicated three basic purposes which can be fulfilled by using the grid program:

- a) straightforward use as a decision-making aid in choice between a pre-selected list of options. The first case study in Appendix 6 is an example of this;
- b) identifying those constructs that prevent a young person from making effective and realistic decisions. Case study 2 demonstrates how a young person in this category can ignore the implications of a grid by using inappropriate constructs in order to consciously exclude alternative job choices from consideration. This aspect is discussed further in Chapter IV;
- c) helping a young person to think through, clarify and structure otherwise unverbaised perceptions about job choice. This was the most common use in the pilot and the other case studies in Appendix 6 are examples.

5.6 FURTHER COMMENTS ON GRID USE

The range of jobs input is interesting in view of the fact that many of the young people who did the grid had said they had few or no job ideas when initially interviewed. This suggests that they may know more about jobs than always

appears to be the case, but do not see the relevance of such knowledge to making their own choices, especially where the jobs are ones that they would not want to do.

There seems to be a possible connection between use of inappropriate or inconsistent constructs and unrealistic or confused job or further education aspirations. 7 of the 11 users of such constructs were unrealistic as far as careers officer and teacher assessments were concerned, in relation to the jobs they wished to enter or the academic entry requirements they expected to get. What could be more significant is that such constructs were used more often by those who remained at school rather than entering employment even when work was preferred. 7 of the 8 staying at school used such constructs, compared to 4 of the 11 who entered employment or further training.

5.7 IMPLICATIONS FOR ONGOING RESEARCH

The two main implications for further research are:

- i) that the grid is a valuable and practical tool within Careers Service constraints, but to be developed further it should be explored within the context of personal construct theory;
- ii) that improvements in computer facilities and access are essential if wider use is to be made of the grid, and this should include some program re-writing to reduce the user difficulties discussed in 5.1 above.

IV

SOME ASPECTS OF PERSONAL CONSTRUCT THEORY IN THE VOCATIONAL GUIDANCE SITUATION

INTRODUCTION

It is not the purpose of this chapter simply to re-state the basic ideas of George Kelly's theory of personal constructs. Readers who are unfamiliar with this are referred to Bannister and Fransella (1971) for a readable account. Rather the purpose here is to take some aspects of the theory which relate specifically to the research under discussion. The pilot trials of repertory grids indicated a great deal of potential as an aid both to the counsellor and the client whilst in the process of vocational guidance and choice. Although some previous work had been carried out with adults only, the grid proved equally useful with young people. However, since the repertory grid itself evolved from personal construct theory, in order to be more effectively used as a counselling aid it must be related back to the theory. This is particularly because the grid only represents one of the potential levels of understanding of individual construct systems, and it is the other levels which are of interest here.

In order to relate the following to the research, all construct examples are taken from those which were elicited from young people during the pilot trials.

THE PRACTICAL APPLICATION OF THE THEORY

As has already been stated, the use of the repertory grid elicited from the individual as an aid to any vocational guidance interview depends on the original purpose of eliciting the grid. Where the grid was used simply as a way of choosing from a range of already short-listed alternatives (see case study 1, Appendix 6) it could stand alone as a tool. However in several cases the grid indicated that some aspects of a young person's construct system were making such decision-making problematic. In particular the use of a very limited number of constructs, or a generally inflexible construction system (see case study 2), meant that new elements or jobs could not easily be incorporated to widen the choice options. When trying to understand the processes underlying this difficulty some aspects of construct psychology can offer an explanation. In addition they offer ways in which the counsellor can help to develop and change the young person's construct system, where this is seen by both as beneficial in helping personal growth and effectiveness.

PHILOSOPHICAL ASSUMPTION

Kelly introduces his theory with a statement of philosophy. As Bannister and Fransella (1971) have said: "Kelly (who dearly loved contriving a fine bit of terminology) gave the label of constructive alternativism" to this philosophical assumption. In straightforward terms, individuals always have alternative courses of action open to them if only they can learn to

creatively interpret and re-interpret the situation they are in. Equally this is an assumption made in any guidance and counselling situation. If alternatives are not possible then such guidance and counselling are invalid. This is not however to deny the reality of outside factors applying limits to many choice situations, and these have to be taken into consideration for the individual to be able to make effective decisions.

REFLEXIVITY

Kelly was very critical of the kind of psychological theory that explains the behaviour of the 'subject' but does not include the psychologist. His idea of "every man his own scientist" is central to construct theory. If psychologists themselves are not also covered by the theory then there is a major weakness in it. Kelly did not see the person as needing to be prodded into action by some external force or internal drive. He saw people as trying to make sense out of their experiences in order to predict the outcomes of other situations, and in doing this they are already themselves a form of motion. The theory is therefore just as applicable to the way in which the individual careers officer works, as to the decision-making processes of the client.

THE THEORY OF PERSONAL CONSTRUCTS

The theory is stated in the form of a basic postulate and eleven elaborative corollaries. Not all of these are directly relevant

in the present context. Consequently only selected aspects are discussed here, and not necessarily in the order in which they appear in Kelly's statement of the theory.

The fundamental postulate is that:

"A person's processes are psychologically channelized by the ways in which he anticipates events".

Kelly argues that each word in his statement is carefully chosen and significant. To paraphrase his own explanations: the theory is concerned with the individual person, not man in general or even a specific group of individuals. It is about the person as a form of motion, as a process rather than just being in a temporarily moving state. The realm of the theory is psychology, not physiology or sociology. The person's psychological processes work through a flexible and often changing but structured set of channels, which at the same time both help and limit the possible choices of action in any given situation. The concern is with the way in which the individual makes such a choice of action, rather than what might be considered to be an ideal choice in that situation. The individual's concern is with trying to develop an increasingly effective predictive and anticipatory basis for deciding on appropriate behaviour and action in other subsequent situations.

THE CLIENT-COUNSELLOR RELATIONSHIP

Within the context of the pilot trials, which are discussed in Chapter III, the main focus was on helping the careers officer

to understand the individual's viewpoint more effectively. Consequently the corollary in Kelly's theory that initially became most important was the sociality corollary:

"To the extent that one person construes the construction processes of another, he may play a role in a social process involving the other person".

Here Kelly argued that it is not necessary for two individuals to construe things in the same way in order to be able to understand each other. He says "that social psychology must be a psychology of interpersonal understandings, not merely a psychology of common understandings". Equally "there are different levels at which we can construe what other people are thinking". In our day-to-day dealings with other people, the precise nature of our relationships with them controls the extent to which we need to construe different parts of their construct systems. In terms of the client-counsellor relationship the concern is with the counsellor's understanding of the client's way of thinking, usually at some depth in the areas relevant to the counsellor's expertise or specialist knowledge. This relationship is an example of a situation where the one person tries to temporarily subsume the other's construct system in order to see things from the other's viewpoint.

In the pilot trials the use of the repertory grid was a way of finding out some of the important constructs which individual young people used in trying to choose a job. These constructs could then be subsumed by the careers officer in construing the

way in which each young person was making such a decision. Kelly suggests that the purpose of this for the counsellor is to more effectively "manage his own role and the construction of experience which he permits the client to observe".

Related to this is the use of role play as a way of helping a client to construe the construction processes of another person. Kelly defines the concept of 'role' not in the traditional sociological way but in a more psychological one. The role a person plays in relation to other people is not so much determined by the social setting as by the individual's choice of behaviour towards these others in any given situation. Individuals effectively choose what role they wish to play in any particular context. Role play as an exercise can therefore help the individual to understand another person's viewpoint more, as well as giving an insight into the implications which a different construct system might have for their own behaviour. In the present context this relates particularly to the young person's attempts to construe the nature of jobs of which they have no experience.

THE NATURE OF CONSTRUCTS

Some of the problems experienced by young people in the pilot trials were the result of what were labelled earlier as inappropriate or inconsistent constructs. Kelly identified constructs in terms of their relationship with their elements as being of three main kinds:

- i pre-emptive
- ii constellatory
- iii propositional.

He regarded the first two of these as being at the opposite end of a continuum to the third. Of the three kinds it is the third of these which generally offers the greatest opportunity for individuals to elaborate and refine their construct systems, and to improve their predictive validity as a basis for action.

A construct used propositionally is one that does not categorise elements as belonging exclusively to its own 'realm'. 'Clean - dirty' is an example of such a construct which can be applied to jobs. However any job to which such a construct is applied can equally be seen in terms of other propositional constructs such as 'mental - physical'. It is not just one or the other and nothing else. Such constructs can also be applied to a wide range of quite different elements. However too many constructs of this kind can lead to no decisions being made because the range of choices is just too wide.

By contrast a construct used pre-emptively can lead to restricted thinking because it allows elements to be construed in one way only. For example the construct 'part of engineering - part of defence' represents what Kelly calls a pigeonhole kind of construct: "what has been put into this pigeonhole cannot simultaneously be put into another". Kelly suggests that in practice individuals do not often use constructs in a totally pre-emptive way, but even when only partially pre-emptive they tend to restrict the individual's ability to think about elements

differently. Similarly a construct used in a constellatory way leads to stereotyped thinking, since it "fixes the realm membership of its elements". In other words if an element is construed in a certain way then a number of other constructs are automatically associated with it. Several young people in the pilot trials used the construct 'indoors - outdoors' in such a way, since it also implied for them a series of other constructs which included 'routine - variety' and 'boring - interesting'. Consequently all indoor jobs came to be seen as routine and boring.

The concern here is with helping young people to use constructs in a more propositional way, in order to widen their choices of action alternatives in such circumstances.

Kelly suggests that constructs are best seen as implicitly bi-polar, with a pole at each end of a continuum. The construct pole to which any element is initially allocated is called the emergent pole. Its opposite, the implicit pole, defines what the element is not. This implicit pole may not necessarily have a verbal label to cover it. It is this that led to problems in the pilot trials when young people produced what were called inconsistent constructs. An example is the construct 'work with numbers. - work with cars'. The implicit pole is given a verbal label which is not the real contrast of the emergent pole. Subsequently, when using a construct rating scale, any elements which could not be allocated to one pole or the other had to be given a mid-point rating, to indicate that the construct was not applicable to the particular element.

Kelly further suggests that constructs have dimensions, among which is that of permeability - impermeability. This refers to the extent to which a construct is open to additional, and particularly new elements. Some young people in the pilot trials used constructs in an impermeable way, which resulted in the exclusion of a number of jobs from the possible choices for consideration. The construct 'uses bricks - uses wood' was used by one young person to exclude new job ideas which had been suggested in an earlier interview. He was therefore able to avoid any implications which such new elements might have for his existing constructs.

Permeability is about flexibility and growth, and can be seen as the degree to which new ideas can be fitted within an existing construct system. The use of inappropriate constructs, and lack of experience, limit the development of other constructs. Such new constructs are essential in relation to job choice because of the need to begin to perceive and accept both one's own limitations and those of the job market. The growth of young peoples' ideas and constructs as a result of careers education and information exploration at school can be significant. In particular those aspects which involve active participation, such as work experience, could help to make constructs more permeable. Experience of rejection in selection for jobs also eventually might make some constructs more open to change.

Construct systems may show tight or loose construing. Tight construing leads to unvarying predictions; loose construing leads to varying ones. The individual may use these alternately.

By loosening the construction new elements may be absorbed and the system expanded. Tightening is then a way of consolidating and tidying up the system. Kelly called this the creativity cycle. One young person in the control group expressed an interest in carpentry work as a result of the experience of doing woodwork in school. He construed a carpentry apprenticeship in the building industry as not only involving practical manual skills, but also as being a mostly outdoor job, which implied for him freedom from the restrictions of indoor and necessarily routine work. Outdoor work was construed as perhaps leading to a more interesting job. This is an example of tight construing in which the indoor work environment was seen as restrictive, consequently excluding any indoor jobs from the alternatives for consideration. After leaving school he was unable to get a carpentry apprenticeship in the building industry, but was offered a joinery apprenticeship with a furniture-making company. Whilst the practical skills involved were similar, the job was in an entirely indoor workshop situation. However after several months he was progressing well and quite satisfied with the job. This suggests that his constructs had loosened to enable the new job to be incorporated, and subsequent tightening had improved the predictive validity of construing about other indoor jobs, which would no longer be seen as necessarily less interesting. Additionally the use of particular skills had become a more over-riding or super-ordinate construct.

As with impermeable constructs, tight construing may also be

a way of avoiding the implications of new information. This is often present in the vocational guidance situation when young people are unable or unwilling to consider alternatives which have been excluded by their tight construction.

CONSTRUCT HIERARCHIES

One of the attributes of human behaviour is that it sometimes appears to the onlooker to be inconsistent in different situations. Young people often make various choices of jobs which seem to have little in common with each other. However this may be explained by Kelly's proposal that constructs can be organised into hierarchical relationships. One construct can be subsumed as one dimension of another, which itself then becomes a super-ordinate construct. An example of this can be seen in the many young people of Asian background seen by careers officers, whose career aspirations include such diverse areas of work as medicine, accountancy and law. Whilst constructs relating to the skills and abilities required for these are quite different, they are perhaps being subsumed as aspects of super-ordinate constructs about high and low pay for example. These in turn may be subsumed by other constructs about professional status and social acceptability, as well as perceptions about parental ambitions or religious beliefs. Some such constructs, such as those relating to arranged marriages for Asian girls for example, may be outside the area of effective discussion between the counsellor and the young

person where individual decision-making is concerned.

Experience of using grids in the pilot trials suggests that such sub-ordinate and super-ordinate relationships are not always easy to identify. This is not least because individual young people were often unaware of these in their own construct systems, and the resultant implications in terms of their own behaviour. However the counsellor may be able to intuit some of these relationships from the contents of an individual grid, and to use them as the basis for further exploration in an interview. A specific example can be seen in case study 3 (Appendix 6). Verbal discussion confirmed that the construct 'decide use of own time - unable to decide use of own time' effectively subsumes several of the other constructs used, since it was an over-riding factor in this young person's thinking about employment and unemployment. It may also be significant that this construct was the first one elicited. In other cases super-ordinate constructs do not appear in the elicited grid, and in such cases the use of the laddering technique discussed on page 107 of Chapter V can be useful.

Kelly also suggested that constructs are organised into a series of sub-systems for the individual's convenience. His fragmentation corollary states that:

"A person may successively employ a variety of construction sub-systems which are inferentially incompatible with each other".

As a general example, a young person in school has a construct

system relating to a role there, and in particular from the point of view of the perceived level of freedom of action and responsibility. This actual construct system is concerned with the routine of the school day, the restrictions of working to a timetable, and the financial dependence on parents and so on. At the same time the individual may have a hypothetical construct system relating to work, in which freedom from such restrictions, combined with financial independence and increased personal responsibility for one's actions, are anticipated. These two construct systems are incompatible in that the young person may know, both from the experiences of other people and perhaps from personal experience in a part-time job, that such freedom may not exist at work either. The disillusion which sometimes occurs when a young person enters a first job, and finds that it does not fulfill these expectations, can be explained as a result of the differences between construct sub-systems.

Case study 4 (Appendix 6) is an interesting example of such incompatibility between sub-systems. It was only some time after two inconclusive interviews, and the use of the grid program, that it became obvious that the young person concerned had two sets of perceptions. The first was related to a leisure-time activity but represented his real feelings about work, since the activity involved was what he most wanted to do as a full-time occupation. At the same time his expectations of the careers interview were that such an idea would not be taken seriously as a proper job choice. His second set of constructs consequently reflects more of what he thought he was expected

to say, and includes examples of the social consensus kind of construct suggested by Edmonds (1979) and mentioned on page 41 of Chapter III. This helped to explain his confusion, since he was trying to reconcile these two sets of ideas which in Kelly's words were 'inferentially incompatible'. Choosing a job from those included in the grid was only a compromise, and the subsequent opportunity to take up the leisure activity as a full-time paid job resolved these contradictions.

Another aspect of this is can be seen when young people use constructs which are the result of previous experience, but which have not been applied before to the job situation. The verbal labels attached to such constructs may not adequately define the ideas involved. In this context the fragmentation corollary is important in assessing if an individual is applying constructs inappropriately.

It is interesting that none of the constructs used during the pilot trials could be defined as inappropriate in this sense; they could all be related to jobs and perceptions about work. Most problems tend to occur where a young person's self image and its related constructs does not relate to the realities of the demands of the labour market, especially in terms of qualifications or personal qualities.

OTHER INFLUENCES ON VOCATIONAL CHOICE

Sociological research has shown that parental influence is often very significant in the vocational choice situation. So too

is the influence of a young person's peer group, and particularly any close friends. To these may be added the influence of belonging to any particular cultural or religious group.

Kelly's commonality corollary states that:

"To the extent that one person employs a construction of experience which is similar to that employed by another, his processes are psychologically similar to those of the other person".

In the case of the family it is not unreasonable to suggest that parents and young children construe many situations similarly. Consequently parental influence on choice is explained in terms of similar constructions. Where conflict arises in vocational choice between a young person and parents this may reflect the adolescent's developing individual construct system, and the ways in which it differs from the parental one. Alternately it may reflect an attempt to break away from the parental construct system by deliberate choice of opposite poles of the same constructs, in trying to establish a more personal identity. Either way this shows the usefulness of counsellor contact with parents on occasions when they have a strong influence on eventual decisions and outcomes in vocational guidance.

With the peer group the situation is different. Kelly does not suggest that a group necessarily depends on shared constructs:

"It is an observed fact that certain groups of people behave similarly in certain respects. Some of these similarities are associated with similarities in their ages, some with

similarities in what is expected of them by their associates, some with similarities of experience, and some with other kinds of construction of similarity. Indeed, if we wish, we can approach the matter of similarities between persons from any one of a number of angles".

What Kelly does suggest is that the members of a group have shared constructions about their expected behaviour. This may then influence their behaviour in that members of the group make similar decisions and choices.

THE NEED FOR EXPERIENCE

Experience is essential for the development and change of a construct system. It is the experience which either validates the anticipations made on the basis of earlier constructs, or proves them wrong and requires change. The young person in the situation of making a job choice is in a dilemma: in trying to make decisions without this experiential base to start with, some constructs are hypothetical and based on extractions from their perceptions of the experience of other people. This leads to trying on constructs for fit in new situations. Only after leaving school and spending some time in a job will the construction of work become more personal. The lack of experience places limits on a young person's construct system which is frequently obvious in the interview situation. With young job changers it is often easier to define any problems involved because such constructs have become part of their actual

experience. As Kelly states in his experience corollary:

"A person's construction system varies as he successively construes the replication of events".

THE SCHOOL TO EMPLOYMENT TRANSITION

Many young people appear to settle very quickly into employment, even where the job is not their 'ideal' choice. This suggests that their construction systems are very loose at that stage and are able to cope with the new information. Others however experience anxiety, which Kelly defines as "the awareness that the events with which a man is confronted lie mostly outside the range of convenience of his construct system". For some young people there is a failure to come to terms with the situation, which can result in staying on in full-time education as a way of avoiding the issue rather than this being a more positive choice.

Since the world of work is often outside the experience of many young people at school, they have been unable to build up validated construct systems in this area. As was suggested above this could explain the fact that parents and relatives often play a significant part in career choice. The young person is effectively using parts of the construct systems of others until having developed more personal validation information.

THE CPC CYCLE

Kelly suggested the idea of a circumspection - pre-emption -

control cycle. To quote Bannister and Fransella (1971):

"Initially we circumspect the field (dream, imagine, speculate), trying to achieve pre-emption. At this point we begin to select out certain issues as crucial and decide what kind of situation we are in. Finally we move to control, the point at which we make active choices which are to be elaborated".

There is a parallel here with Super's (1953) developmental theory of vocational choice discussed in Chapter I, which proposes a cycle from fantasy, through reality to actual decision-making.

Kelly also suggested that the control part of the cycle involves selection of an appropriate construct in a particular situation, and selection of the pole of that construct that is likely to lead to the best anticipatory basis for action. In the young person's decision-making relating to careers this emphasises the importance of careers education, particularly information sources to explore, work experience opportunities and open discussion with peers. What seems to occur sometimes is that the pre-emption part of the cycle results in exclusion of relevant issues, often due to ignorance or lack of opportunity to talk about them, and particularly as a result of the young person's lack of experience. Case study 2 (Appendix 6) is partly an example of this.

COUNSELLING FOR CONSTRUCT CHANGE

In trying to help individuals to effect change in their construct

systems, where this is seen as potentially beneficial, the counsellor needs to keep in mind Kelly's idea of core structures. These are constructs which are fundamental to the individual's way of seeing things, including those which are central to what Kelly regarded as the self. Such constructs can sometimes be revealed in interviews by using the technique of laddering, which is discussed on pages 107-109 in Chapter V. Any situation which implies major changes to these represents a threat to the individual and can result in hostility towards the counsellor. The counsellor needs to be aware therefore of these core structures. In order to loosen a construct system to achieve change it is necessary to start with peripheral constructs which do not necessarily imply change to other super-ordinate constructs. For example the construct 'high pay - low pay', used by several young people in the pilot trials, often reflects inaccurate information and does not have to imply change to other constructs by itself being changed as a result of additional information.

THE FORMATION OF NEW CONSTRUCTS

Kelly suggests three favourable and three unfavourable conditions for the development of new constructs. These are:

A) Favourable

1 Use of fresh elements

This is useful when trying to counsel a person who seems unable to look at alternative courses of action. As

in a previous example the young person who sees all indoor jobs as boring, or all outdoor jobs as more interesting, can be encouraged to try to think of a job which might simultaneously represent the opposite poles of both constructs, such as an outdoor job with a lot of very routine activity. One young person, who was considering social work or nursing as possible careers, used the construct 'giving you job satisfaction - not satisfying' in a way that matched it closely with the construct 'team work - working on your own' in her grid. When asked to think of a career that she would consider to involve team work but also to be less satisfying in her own terms, she suggested banking. This led on to further discussion about job satisfaction and what other factors she would consider important in this. As a result more constructs such as 'to help others - helping yourself' and 'responsible for others - less responsible' were elicited. Whilst this may be regarded less as an example of producing completely new constructs, and more as revealing some already existing and perhaps super-ordinate ones, it may also suggest that such a process is in reality a continuum. Discussion indicated that such constructs were 'new' to the young person involved in that they had not been verbalised or applied before.

The addition of 'unemployment' as a new element helped some young people to apply new constructs which had not been elicited using job titles only.

2 Experimentation

This was used by Kelly to suggest looking at the implications of construct change within a particular situation, in order to see what effect such change might have on eventual outcomes. The idea was subsequently developed further by Hinkle (1965) in his implications grids. The individual is asked to consider the possible personal effects of being at the opposite pole to the preferred one on any particular construct, in order to explore the implications for change in other constructs. Kelly suggested that new constructs might then develop from such exploration.

This process is often involved in a careers interview situation with young people, where job expectations are challenged for one reason or another. Careers officers often ask the question 'what do you think would happen if you could not do what you really want to?'. This can then lead on to discussing alternatives. In the present context it may also lead to eliciting or developing new constructs.

3 Availability of validating data

Kelly states that "if returns on the prediction are unavailable or unduly delayed one is likely to postpone changing the construct under which the prediction was made". The positive aspect of this is where the young person enters employment and is able to confirm or reject specific

constructs about it, and develops new ones. The negative aspect is the situation where a young person is trying to make early vocational decisions before leaving school, or in choosing to remain in full-time education retains constructs which are already proving unhelpful in facilitating positive decision-making.

B) Unfavourable

1 Threat

Kelly defined this as the "awareness of an imminent comprehensive change in one's core structures". Whilst some adolescents experience this in the school to employment transition, as has been suggested earlier the flexibility of the developing construct systems of most young people helps them to cope with the new experiences involved. At the same time this emphasises the value for others of structured and supervised work experience opportunities whilst still at school, where the individual can develop new constructs but can also easily be removed from a particular placement if difficulties arise.

Adults who face redundancy are much more likely to experience threat since their core structures are usually both more developed and stable, and less open to change.

2 Preoccupation with old material

The individual who is going through a period of construct

change may revert to earlier less mature or even child-like behaviour, as a way of coping with the new situation. Whilst most people do this at some time or another, the adolescent is going through a stage of sometimes continuous construct change in relation to personal identity. Consequently adolescent behaviour and decision-making may often be regarded as immature or inappropriate, when in fact this may be a temporary self-protection situation. Careers officers often recognise those young people whose construct systems are not yet ready for the entry into employment, and who may need counselling help to develop new constructs in order to take the next step.

3 No laboratory

This refers back to the need for experience mentioned above. In this context the laboratory is the work situation, in which constructs on which predictions have been made can be tested out to see if they are correct.

In relation to employment, if a young person does not have a job then there is no way of testing out the constructs which have been used in the choice process. At the same time the experience of unemployment often leads to the development of a new and quite different set of constructs, which in turn results in changes in the constructs about work. Experience can also be avoided by those who wish to ignore its implications for changes in their constructs.

THEORETICAL INSIGHT AND THE GUIDANCE INTERVIEW

This chapter has been concerned with various aspects of personal construct theory, and their particular relevance to the vocational guidance situation. By understanding the processes involved in construct change and development, and the ways in which these can benefit the individual's ability to cope in a variety of situations, the counsellor is able to plan more effectively any intervention which may be considered. Inevitably when dealing with young people the degree to which they may wish to understand the theoretical basis for any action can be limited. Such insight is of special interest to the counsellor however, as the professional in the relationship. In the context of vocational guidance an understanding of the theory can not only improve the quality of the guidance interview, but also where repertory grids are used as an aid to such interviews it can considerably improve the relevance of any subsequent action decided upon for the client. The grid as an initially superficial tool is therefore only part of a much more important process.

Subsequent work in this research was designed to explore this potential further, both in the vocational guidance process and in relation to helping young people to learn more effective decision-making by increased self-awareness.

THE CONTINUATION OF THE RESEARCH WITH YOUNG PEOPLE

The pilot trials indicated that repertory grids used in an interactive way did offer careers officers a valuable tool for vocational guidance work with young people. Significantly they proved even more valuable in helping young people themselves to verbalise, structure and perhaps restructure their own previously internalised thinking about job choice. It was also shown that in many cases even inexperienced young people did have construct systems relating to vocational choice, however inadequate, which were influencing their decision-making.

The ongoing research that developed from the pilot trials has been divided into two parts. This chapter is concerned with the continuing work with young people, and the changes that were made as a result of the pilot trials. The next chapter is concerned with the introduction of the ideas involved to a wider group of careers officers.

ONGOING REPERTORY GRID USE

As a result of the pilot trials it was decided to continue using the repertory grid computer program on a selective basis. This was to be mainly done within the careers guidance context in the school used for most of the pilot study, but would also include individual pupils from other local schools on a careers

officer referral basis. At this stage no pre-determined target number of further users was decided upon, nor was any additional evaluation of the grid technique itself planned. Instead the research was to continue exploration of the use of the grid in individual vocational guidance interviews, in relation to a wider personal construct theory approach.

MICRO-COMPUTER ADAPTATION

A) EQUIPMENT

In order to facilitate further use of the grid program, and to minimise some of the difficulties experienced in the pilot study, one major change was introduced at this point. A Sharp MZ80K micro-computer and Epson printer were acquired, which were portable enough to remove the location restriction, and the need for a telephone and modem link and its associated problems. This considerably reduced the user difficulties and the amount of time needed for careers officer supervision. Additionally the problem of the amount of paper print-out resulting from the KELLY program was removed, since the main interaction could now take place on a video display unit.

B) SOFTWARE

i) Program re-write

The Open University KELLY computer program used in

the pilot was extensively re-written and adapted for the micro-computer by the researcher as part of the ongoing development. By not using outside programming help it was possible to make a continuous number of improvements and changes in response to user feed-back, and to produce an aid very much designed to be appropriate to the specific research context. The opportunity was taken to introduce a number of alterations which were seen as necessary to improve the ease of use with young people. The program was re-named JOBSORT, and a sample run of this is provided as Appendix 4.

The overall intention in re-writing the program was to improve its flexibility and to offer options which the KELLY program did not provide. By inputting the user's first name at the outset, which then occasionally appears in the instructions as well as on the grid print-out, the process was made more personal. The language level was adjusted to make it more suitable for young people of comparatively low academic ability, and to make it possible for the user to run the program with little or no supervision. This was essential for the original aim of saving careers officer time in eliciting the kind of information provided by the grid. The use of a VDU meant that the interaction between user and computer could now take place on screen, and this necessitated re-formatting the print-out for ease of use within the interview. In order to ensure that information was not lost, the options for deleting elements or

constructs were removed, but replaced by an option allowing high matches to be temporarily ignored.

ii) Instruction booklet

By incorporating more instructions in the program, it was possible to dispense with the original instruction booklet. It was replaced by a shorter introductory sheet as in Appendix 3, and this only requires completion of an element list. This is given to the user on arrival at the careers office shortly before using the computer.

ELEMENTS AND CONSTRUCTS

The pilot trials demonstrated that the number of constructs which were elicited from each user was not related to the number of elements each input. However by starting with a larger number of elements the elicitation process seemed to be made easier. Consequently the revised program offers two alternatives: either the user can input self-selected elements up to a maximum of ten, or for the user who finds it difficult to think of enough elements there is the option of having four elements already provided. These elements were chosen by a group of careers officers as representing jobs which most young people would have perceptions about even if they would not want to do the jobs themselves. These jobs were: milkman/woman, teacher, sales assistant and policeman/woman.

It was still considered important that constructs should not be provided, in order to avoid compromising the essentially individual nature of each grid. However a prompt list of key words about jobs was incorporated to help the user who found difficulty in thinking of suitable discrete constructs. The list of key words can be seen in the sample run of the program in Appendix 4. It is only displayed on screen when requested by the user at the appropriate points. There is also an option which allows the constructs elicited so far to be displayed as a reminder, and to help avoid construct duplication.

ADDITIONAL CHANGES

Some experimentation was carried out with the new program to find the most useful minimum number of constructs to be elicited. If there are too few constructs there is inadequate material for useful subsequent exploration and discussion with the client. At the same time the elicitation process is inevitably rather repetitive and there is a risk of users becoming bored if too many constructs are expected. Eventually it was decided that seven constructs would be the minimum, after which the user could choose whether to finish and get a grid print-out, or continue up to a maximum of fifteen constructs. Further more recent work on the program has reduced the minimum number of constructs to six, with a maximum of ten to allow for on-screen display of the grid results when a printer is unavailable. The first four constructs are elicited from triads of elements, after which

variety is provided by feed-back of highly matched elements to elicit other constructs. The alternative now offered is for high element matches to be ignored, removing a source of difficulty experienced with the KELLY program which would only continue if such element matches were reduced, either by input of further constructs or by the deletion of the matched elements. Such a choice often led to the loss of useful information.

A final important addition is the inclusion of 'ideal job' as a further element after the fifth construct has been elicited. This extra element is introduced automatically by the program and has to be rated on each of the constructs elicited up to that point.

USING GRIDS IN INTERVIEWS

As has been discussed in Chapter III, the grid provides information for discussion which often does not arise in an initial vocational guidance interview. Whilst this may be due to reticence on the part of the client, it is also frequently due to the particular immaturity of younger individuals and their lack of experience, which result in insufficiently verbalised and structured thinking about vocational choice.

There are two main aspects which offer starting points for discussion with an individual in an interview subsequent to using the grid program, both of which have been used in the ongoing research. Firstly there is the users response to the interaction process itself. There is no doubt that the majority of users

found this a significant contribution to their self-awareness. Secondly there is the basic information elicited which earlier interviews may not have produced. This includes the elements used and the reasons for choosing them, and the constructs which relate to these, no matter how inadequately worded they may be for expressing the client's feelings. Subsequent discussion can encourage the client to explain what was meant where there is any lack of clarity.

One technique which can continue the grid process even further is that of laddering, evolved from Hinkle's (1965) implications grids, by which the client's preferred pole of any particularly important construct is used to explore other constructs which have not been previously elicited. By asking questions as to why the client prefers a particular pole, further super-ordinate constructs can be elicited. For example one young person chose the 'work outdoors' pole of the construct 'work indoors - work outdoors'. When asked why he preferred this he replied that 'you get more freedom outside'. His suggested opposite pole was 'feel trapped indoors'. When questioned further in the same way as to why it was important to have more freedom the construct 'enjoy work - don't like work' was elicited. Subsequently other constructs related to the importance of 'doing a good job' and 'being liked by your workmates'. Such super-ordinate constructs, mentioned in Chapter IV, often have more impact on decision-making processes than the individual is aware of. In the present context it is interesting that some writers such as Roberts (see Chapter II) have suggested that the idea of job satisfaction

is largely irrelevant to young people in unskilled or semi-skilled jobs. However on several occasions in this research when using laddering, constructs were elicited which suggested that the need for job satisfaction is a very real one with many young people. The words 'job satisfaction' may not be used, but the sub-ordinate constructs imply it. What constitutes job satisfaction however varies from one person to another: for one it may be a job well done, whilst for another it is about relationships with people in the work situation.

The process of laddering upwards in this way may reveal constructs which can more conventionally be regarded as part of an individual's self-concept. These are defined by Kelly as 'core constructs', since they are central to each person's whole construct system and sense of stability. As such they cannot easily be changed without the individual feeling very threatened. Consequently exploring these by use of laddering requires sensitivity on the part of the counsellor: the client can reach a point of unwillingness to follow the implications of particular constructs further.

In such circumstances laddering downwards can be used as a way of revealing further useful information, but in a much less threatening way. Laddering downwards produces constructs in such a way as to make it possible for the client to avoid any personal implications. Taking the example already given above, the counsellor might ask what sort of person would enjoy working outdoors. Similar constructs may be produced, but they are perceived as relating to another person rather than the client.

The decisions as to how and when to use laddering in an interview are very much a part of the counsellor's own interviewing technique, concerned with an intuitive understanding of each client's need to discuss personal information and to follow up implications. However some grids will produce so much 'new' information that the client was perhaps previously unaware of, that additional information would only prove confusing rather than helpful. In other cases the counsellor will be aware that the client does not want to go further at that point, just as in interviews not based on grids there are some questions which are best not asked. Again this is a matter of intuition in the specific one-to-one situation. In relation to the work of the careers officer, restraints on the time available for interviews may determine the degree to which laddering is used in a single interview, and this was the case with several of the pilot trial users.

INTERVIEW STYLE AND TECHNIQUE

Experience both on the part of the researcher and other careers officers of using the grid as a basis for vocational guidance interviews suggests several points about individual approaches to interviewing. It does not compromise or change those elements which are generally regarded as good technique, such as responsive listening to what the client is saying or using open-ended questioning to better understand the client's thinking. If anything it reinforces the use of such techniques because

the emphasis is on each individual's perceptions, and their influence in the personal decision-making process. However there are a number of ways in which using a personal construct approach to vocational guidance can and does alter individual interview styles.

Firstly there is the aspect of the overall plan of each interview. The training of careers officers normally includes a lot of practice in this, particularly in terms of the logical structure of the interview, and what the careers officer needs to find out from the client in the course of it in order to offer appropriate advice and guidance. Most careers services use some kind of pre-printed form or 'aide memoire' for interviewing purposes, and these can lead to inflexibility in the kind of questions asked and the answers expected. Because the emphasis in construct theory is on the individual client's perceptions and needs, the interview often becomes less clearly structured. The client determines the direction it will take. This can be a difficult situation for the careers officer, who has to try to talk less and listen more and respond accordingly. Given the chance the client may often lead the interview in a different direction to that planned by the counsellor, whose interview technique must become more reactive. Information gathering is restricted to what is necessary in relation to the client's thinking rather than following a pre-determined pattern for completion of forms and interview notes.

Secondly the interview frequently moves away from the careers officer's need to put something down in writing that can be

acted upon by careers office staff, and moves towards a concentration on helping clients to understand themselves better, which will enable them to take more personal responsibility for decision-making and action. Subsequently any written notes are likely to be more concise, accurate and relevant.

Thirdly the approach encourages a greater degree of openness between the client and the counsellor. Both written interview summaries and careers officer's notes should reflect agreement by both participants on the important issues and required action. In order to achieve this the client should be shown what is written. Comments made by careers officers inevitably become less subjective in this situation, and this encourages good practice of a kind which is very relevant in relation to current data protection legislation and the rights of the individual. For example subjective and usually confidential comments about a client's mode of speech or preferred style of dress come to be seen as no longer appropriate. If any comments are necessary they should be made verbally, and should represent an agreement on the client's own perceptions of the importance of such factors in any particular context. As such they must also be open to discussion and disagreement, such as how changing them in some way might be beneficial or essential in order to achieve a specific objective. The focus shifts from irrelevant comments on how an individual dresses in an informal school or college interview for example, to how the same individual might dress when going for a formal job interview, or indeed when going to work in a more formal environment. The perceptions and opinions

of the individual are taken more notice of.

Lastly, construct psychology not only encourages but also requires a more long-term developmental approach to vocational guidance. It effectively results in more open-ended and often inconclusive interviews. Since listening is more important than ever it makes silences in an interview a positive rather than negative aspect, encouraging some insecure young people to express ideas, however tentatively. Further interviews may be required, and this demands positive action on the part of the careers officer to devise alternative strategies for more effective use of the overall time available for interviews.

USER GROUP

For the ongoing use of the grid program young people were selected on the same criteria as for the pilot trials, as having confused or uncertain career ideas. Between the end of the pilot and the time of writing this thesis a further twenty-eight young people have used the revised grid program. The majority of these have been less academic job-seekers seen before leaving full-time education. Seven were referrals from careers officers who were working in schools not previously involved.

As in the pilot all the young people taking part expressed enjoyment in using the program. This related particularly to the interactive nature of the computer use. There was continuing face validity in that the process was seen as a personal learning experience by most users.

The number of constructs elicited has continued to be variable and unrelated to the number of elements input. Although the revised program requires a minimum of eight elements to run, all users have chosen to use the maximum of ten. Only three users have not taken advantage of the provided elements option mentioned above.

PERSONAL DECISION-MAKING

Helping individuals to extend the basis on which they are able to make decisions implies that the information provided by a grid has to be taken further. The grid itself was used, both in the pilot trials and subsequently, as an aid to interviewing. Since it elicits a lot of information which initial interviews often do not, it can be used in a very straightforward way by any careers officer with very little training. The discussion of the information in the grid can be carried out by whatever interviewing methods are usually adopted by the individual careers officer. If this enables a positive conclusion to be reached then this is quite acceptable. However it is often inevitable, with the kind of clients for whom the grid is seen as appropriate, that there is a progressive awareness of the way in which the client's construct system may limit the choice possibilities artificially. Unfortunately there is a tendency within the time and organisational limitations of the standard interview procedures, discussed in Chapter II, for the careers officer faced with an inconclusive first interview to simply

suggest a second interview at a later stage. In between these the careers officer may well play no positive part in helping the client to undergo appropriate development, by provision of new experience or information, which would make the second interview more productive. It is often left to chance, or to the school careers education programme which in some schools can amount to the same thing.

Personal construct theory would appear to offer a real opportunity for the careers officer to take the information from a grid elicitation and turn it into an individualised careers education plan. It has not been possible within the limited scope of a research programme such as this to explore this idea further, but the research itself has at least provided the stimulus for such a further exploration.

CONCLUSIONS FROM THE ONGOING RESEARCH

Some conclusions can now be drawn from the continued use of grids in vocational guidance discussed above.

Most important is that the grid technique, particularly when used interactively, is valid even with relatively immature young people who might be assumed to have few constructs about work. Both in the pilot trials and subsequently the grids elicited have demonstrated that all individuals, regardless of age, have some kind of construct system about jobs and work. The degree of elaboration of this system shows no particular relationship with age, and it is therefore reasonable to conclude that other

factors are involved. Some grids demonstrated a very limited construct system which in turn limited the range of choices open to the individual. Jobs were seen in very simplistic terms. For example all office jobs were perceived as identical regardless of the vast variety represented by actual job vacancies. At the opposite extreme there were a small number of young people whose constructs were quite extensive. Some grids elicited had the maximum of fifteen constructs and showed some depth of perception. At the same time this very complexity sometimes made decision-making just as difficult.

In cases of both kinds the exploration of the grid with the careers officer in a subsequent interview was sufficient to lead to increased understanding of their own thought processes. Nevertheless the interviews were often inconclusive. It is in these situations that the careers officer would need to be involved in planning what happens next, in order to try to help loosen or tighten the young person's construing, as previously discussed in Chapter IV.

The introduction of 'ideal job' as an element has been valuable in focussing the individual's thinking in order to start defining those constructs which might be personally most important in choosing a job.

It has not been part of the research to extend the grid to considering, for example, alternatives to unemployment, or school subject and course choices at thirteen or sixteen plus. Its potential in these areas is however obvious, since only the elements need to be changed. The focus of this research

was properly on job choice since that was the expectation of most of the users during the programme. Since only two of the users are known to have experienced any significant period of unemployment after leaving full-time education, this job choice emphasis is seen as justified.

The research has demonstrated conclusively that both the use of repertory grids in particular, and construct theory in general, are of considerable value to both client and counsellor when applied to vocational choice and guidance. Their use can therefore hopefully be extended within the I.L.E.A. Careers Service. Whilst the pilot trials and subsequent work have only offered the facility to a limited group of young people, the intention is to make the computer program and related information available to a wider clientele, including adults. This will be achieved through introducing the ideas involved to other careers officers, and to careers teachers. The work already carried out on this is presented in the next chapter.

VI

CAREERS OFFICER INVOLVEMENT IN THE RESEARCH PROGRAMME

In view of what has been indicated previously regarding careers officers and their attitudes towards research findings, it was seen as an essential part of this work that practising careers officers should be involved at all stages. If the results of the research were to really meet a need, then this need had to be identified by the practitioners themselves, and the research planned accordingly.

PRE-PLANNING STAGE

The identification of some of the difficulties experienced by careers officers in giving guidance was done both through informal discussion with individuals, and through more formal sessions with groups. Regular training and information sessions are arranged for various different groups of careers officers by the I.L.E.A. Careers Service Central Support and Training Unit, and opportunities often occur in these for the sharing of ideas and opinions. From several of these meetings it was possible to identify some common concerns, particularly those relating to priorities and the use of time within a context of widening demands on resources, and the difficulty of trying to ensure that guidance interviewing does not become superficial in these circumstances. Some of these points have already been

detailed in Chapter II, and the research programme was planned with such concerns as a focus for practicality.

PILOT TRIAL PHASE

During the pilot trials, careers officers at divisional level were involved in more specific ways:

- a) at two different stages of the pilot trials presentations were made to the local monthly careers officers' meetings, to explain the purpose and plan of the research and to provide a brief introduction to the techniques of using repertory grids;
- b) individual careers officers were given the opportunity of using the repertory grid computer program themselves, in order to gain some insight as to how it worked and to consider its potential for use with their own clients.

Subsequent feed-back at this point was generally verbal and informal, and the response was very positive about possibilities for improving individual guidance in a genuinely client-centred way. However as micro-computers had not at that stage been introduced into the I.L.E.A. Careers Service, the program was limited to the one available micro in the local office. This was seen as a disadvantage for any wider use by clients.

Towards the end of the pilot trials, at a stage when further research was being considered, the divisional group of careers officers was involved in the choice of jobs to be included as provided elements in the revised program and instruction sheet

as outlined on page 104 of the previous chapter. A total of twenty-two careers officers and careers assistants provided suggestions from which the four elements eventually used were chosen. In addition the construct ideas section of the revised computer program was drawn up from those suggested by the same group.

CONTINUATION PHASE

During the continuation phase of the research a larger number of careers officers became involved. Individuals were encouraged to use the revised program as before in order to understand its structure.

At the request of a neighbouring division whose officers had expressed some interest, an introductory session was carried out at one of their regular careers officers' meetings.

At local level officers were encouraged to refer their own clients. These were young people with whom the officer's usual interview methods had so far been unsatisfactory, and where the grid program was seen as a potentially new approach. Although the numbers were small the subsequent interviews and feed-back from them demonstrated in most cases a break-through in client perceptions and understanding.

As a result of a personal interest on the part of one of the training managers at the Central Support and Training Unit in applying personal construct theory to vocational guidance, other careers officers became involved. Three one-day workshops were

organised under the title of 'Helping young people to learn decision-making'. A total of about thirty officers took part, the majority of whom had not previously been involved. The programme on each occasion included an introduction to construct theory, small group use of the repertory grid computer program, and both verbal discussion and written feed-back. Some points from this are presented in the section on feed-back below.

OTHER DEVELOPMENTS

As a further result of interest expressed in the grid program it was demonstrated to the I.L.E.A. Careers Education Inspector, and to the Careers Advisory Teacher. The possible introduction of the program as a careers education input in schools was discussed, but this has not been taken any further to date since both the inspector and teacher involved moved into other posts shortly afterwards. Additionally at that stage the availability of the program was dependent on its being re-written for use on the hardware that was generally available in schools. The establishment of an Inner London Educational Computing Centre, and the appointment of an advisory teacher for computers in careers education, increased the chances of extending the use of the program in schools. Further discussions took place, but again due to a change in the advisory teacher post-holder no progress has yet been made.

A more encouraging area of development has been that taking place in the Careers Service, particularly at a national level.

This has been in terms of the wider use of personal construct theory in vocational guidance, and was initiated by a training officer in the Hampshire Careers Service. Initially unconnected with this research, but following correspondence in the Careers and Occupational Information Centre's 'Newscheck' magazine, an interested group of careers officers and others met for a two-day conference at the Polytechnic of the South Bank in 1985. The results of the research as discussed in Chapter III were shared with the group in order to offer a practical perspective on an otherwise mainly theoretical introduction. There was also a great deal of interest expressed in the possibility of the grid program being made more widely available, and consequently it was again re-written by the researcher for use on the commonly used BBC micro-computer. A further two-day conference at the University of Sheffield in 1986, when the revised program was demonstrated, has resulted in increasing use of the program in various contexts since it continues to provide the practical focus necessary for applying construct theory in the Careers Service situation.

Within the I.L.E.A. Careers Service some work was planned in order to develop materials suitable for use by careers officers with groups of young people in a classroom situation. These would use grid methods but without the need for computer access, exploring ideas before interviews as well as trying to assist the development of some of the skills required to make effective use of self-selection job vacancy displays. Again there have been delays in such work as a result of continuing staff changes.

RESULTS OF FEED-BACK

About fifty careers officers have been involved at different stages of research. Written feed-back has been provided by sixteen of these who took part in the workshop sessions.

In response to a question about the usefulness of making the grid computer program available on the careers office micro-computers, there was general agreement that this would be a good idea. However reservations were expressed about the availability of, and access by young people to, the single micro in each office. There were several responses which suggested that it could best be used in schools where micros are more generally available. It could also be offered to Youth Training Schemes as many of these have micros as part of the inbuilt introduction to new technology specified in their training programme by the Manpower Services Commission.

When asked how the theory under discussion might influence careers officers the response was less clear. There was an interesting divide between newly trained careers officers with less than a year of experience, and those who had been in the Service for two or more years. The former group, although a minority, felt themselves adequately prepared for any difficulties they might experience in the guidance situation. The comments included the opinions that construct theory offered nothing new, and that most careers officers were genuinely client-centred anyway. The latter group were more aware of the importance of re-assessing their work regularly in order to

continue to respond to each client as a unique individual. The opportunity was welcomed for discussion of a different approach to those situations where usual methods of interviewing did not make much progress. They were more able and willing to acknowledge the organisational pressures discussed earlier, which can result in a less client-centred process no matter how concerned the individual careers officer.

One implication of these comments is that construct theory is best introduced to careers officers once they have had some practical experience within the Service. It is only then that the effect of contextual constraints on individual ideals is recognised. In parallel with their clients, careers officers' construct systems are also changed by experience.

There was some feeling, especially among the management staff who took part, that the workshop days were rather inconclusive. This was partly due to the non-availability of the grid program for use with careers officers' own clients. In order to apply construct theory it would be necessary to develop materials for use with individuals or groups that would focus the ideas in a practical way, and which could be used without requiring access to computer facilities. The start of such work has already been mentioned above.

THE RESEARCHER AS CHANGE AGENT

In the introduction to Chapter I a brief mention was made of careers officers' attitudes towards research findings in the

field of vocational guidance, and the general lack of impact these findings often have on their careers guidance practice. However, from what has been said above in relation to further developments, it is obvious that research can begin to influence practice. This is especially so where a research programme is rooted in the practical problems experienced by those to whose work the research is relevant. It is also of value on occasions for the researcher to be identified as an involved practitioner in the particular field of work concerned, rather than being seen more as an academic who is removed from the 'real-life' situation. Although the practitioner may not have the time and facilities to carry out and analyse large-scale surveys or research programmes, there can be benefits in more limited projects which are seen to have a direct bearing on particular problems. The individual working in the field can target the research findings to the right audience, as well as being able to involve colleagues in any subsequent work should they express such an interest.

There are now a number of Careers Services, schools and colleges where the results of this research have been followed up with much interest. The computer program itself has provided an impetus for introducing staff to the use of construct theory in vocational guidance. Whilst the research discussed here was not itself the reason for such interest, what has developed reveals the importance of providing practical ways of putting theoretical perspectives, including construct theory, into a useable format. This itself can lead to a change in attitudes, both towards theory and related research.

FURTHER WORK

There is no doubt that the research which is the subject of this thesis, along with the support and involvement of individuals in the I.L.E.A. Careers Service training section, has led to increased interest in applying construct theory in vocational guidance. Although there is some way to go before Kelly's ideas are widely accepted in this relatively new area of application, several careers officers have responded positively, expressing a renewed impetus in their work. Hopefully work will continue on developing the kinds of materials mentioned previously, along with their use with clients particularly in small groups in schools as a discussion starter and self-awareness tool.

As a result of the general interest mentioned above there have been a number of requests from individuals and Careers Services to make the computer program more widely available. Consequently this has again been re-written, for use on the BBC micro-computer which is widely used in educational establishments. The program has been re-named CAREERGRID, and the opportunity was taken to incorporate further improvements and use options. At the time of up-dating this thesis the program was being used by Careers Services in Hampshire, Hereford and Worcester, and Wiltshire. In addition a number of individuals were trying it out in different contexts such as Bedford Careers Office, the University of Sussex student careers advisory service, and the careers officers' training course at Huddersfield Polytechnic.

VII

IMPLICATIONS FOR FURTHER RESEARCH AND FOR CAREERS EDUCATION AND GUIDANCE

INTRODUCTION

The research discussed in this thesis has produced a number of implications which are brought together in this chapter for further consideration, and suggested action where appropriate.

These relate to:

- 1 further research needs, both of a general and specific kind;
- 2 the work and organisation of the Careers Service itself, and the delivery of its services through the individual careers officer;
- 3 the process of careers education within schools and colleges, particularly as an essential preparation for careers guidance on a more individual basis.

FURTHER RESEARCH NEEDS

Two general areas for possible further research have been identified:

- A) There is a need to understand why so many careers officers appear to reject any approach to careers work which is seen as 'theory', and therefore not applicable to what they do

from day to day. Killeen and Watts (1983) have suggested that practitioners have ambivalent attitudes to theory. Whilst theories and research may be used to try to justify a claim to professional status, they are also rejected as having been devised and carried out in many cases by academics or full-time researchers rather than by practitioners, whose problems by implication are not understood. Research findings can be seen as a threat, opening up the work being done to outside scrutiny. Do careers officers in general adopt a single and coherent personal theoretical basis for their work which influences the way they plan it? Or do they react to circumstances in a somewhat fatalistic way rather than being able to initiate change related to a strong and single-minded viewpoint? The use of repertory grids with careers officers would be one way of investigating attitudes to theoretical perspectives.

Perhaps if careers officers applied construct theory to their own work more widely they would find increased flexibility in responding to circumstances. Construct theory has a major advantage in that it can be applied to any individual's own work whether or not the employing organisation practises or subscribes to it.

- B) In relation to young people it would be interesting to research the kind of status hierarchies which develop in their thinking concerning the choice alternatives open

to them. It would be valuable information for the careers officer to understand more about how such hierarchies come about and what are the perceptions that underlie them. There is no doubt about the significant influence they play in the decision-making of many clients.

A research need more directly related to the research discussed here is to understand how construct systems related to vocational choices actually develop. A longitudinal study would be one way, with grids administered regularly between the third year of secondary education when first choices are being made, and the second year of actual employment. This might reveal if there is any particular age at which coherent work-oriented construct systems begin to develop, as well as what factors might be significant in helping this development. Any intervention in terms of careers education or guidance could then be planned in the most appropriate way, at the most relevant stage.

A further area of investigation which could follow on from the grid use discussed previously is that of using grids as a counselling aid for young people on Youth Training Schemes. The Careers Service has become involved with trainees on such schemes, and especially with those who have difficulties of various kinds in settling into a particular employment or training situation. Could helping a young person to understand their own constructs be of benefit in helping them to resolve some of their own problems?

Additionally it is becoming obvious from careers officers'

experiences of counselling trainees that construct systems develop rapidly during this first year out of education. Vocational decisions which had been deferred are now being made when the constructs on which they are based have become more elaborated. This suggests that certain kinds of experience are particularly significant and it would be valuable to be able to identify these.

IMPLICATIONS FOR THE CAREERS SERVICE

Over a period of time in recent years the Institute of Careers Officers has been involved in an ongoing re-assessment of the role and work of the Careers Service. Opinions have been firmly divided as to future options. For a time, when youth unemployment reached unprecedented levels, there was a strong lobby in favour of pulling out of guidance work with the under-sixteen age group in schools with a move towards more work with older clients including the longer-term unemployed. This was partly occasioned by the decreasing number of young people who started employment directly after leaving school without entering further education or training first. There was a division of opinion as to whether or not the withdrawal from work in schools should be total, leaving careers education to fill the gap. The alternative was considerably less interviewing, with a more effective input into the planning of careers education programmes.

Some of the conclusions of the research reported by Bedford (1982) and Cherry and Gear (1984) support this latter approach. Interviews are best left as late as possible and adequate

preparation through careers education, planned with the help of careers officers, ensures that eventual interviews are much more beneficial. The research discussed in Chapter III neither supports nor contradicts the question of the timing of interviews, since individual construct systems about vocational choice are seen to develop at different rates. However the individualised programmes which might be required for effective construct development would strongly support careers officer involvement in their planning. Effective individualised careers education programmes could in turn lead to the postponement of vocational guidance interviews to a more relevant stage of development.

As careers officers gained more experience of counselling the unemployed, there was a renewed awareness of the relevance of guidance in making suitable choices. Opinions expressed by I.L.E.A. careers officers in their training sessions, and especially by Unemployment Specialist officers, suggested that quite a significant number of unemployed young people were in that situation because of inappropriate or inadequately informed choices at various stages.

More recently the need for individual guidance has been more generally restated. There are perhaps several reasons for this. There has been a fall in the unemployment figures, which was accompanied by a recognition among practitioners that the unemployed still constituted only a part of the age group to whom their services were offered. At the same time there has been an increase in the complexity of choices open to all young

people. There has been a proliferation of new full-time vocational courses both in school sixth forms and in colleges of further education. The development of the Technical and Vocational Education Initiative (TVEI) in schools, and the Certificate of Pre-Vocational Education (CPVE) in both schools and colleges, has required increased guidance in order that young people can make appropriate choices in relation to career ambitions. The Youth Training Scheme has also demanded a guidance input. The Careers Service has increasingly become involved with 'A' level students in schools, and others in further education. The reason for this is that vocational guidance has generally come to be seen as a developmental process in which education at all levels, and subsequent further training or employment, are regarded as part of a continuum. Teachers in educational establishments are generally aware of new educational initiatives, but often admit to not being able to keep up with developments in other training and employment opportunities. The Careers Service in most parts of the country is increasingly regarded by schools as vital in helping young people and their parents to make decisions within a context of being fully informed about all the various possibilities. In this situation it is uniquely placed to have a broad overview of the situation. No longer is the careers officer dealing only with the less academic early leaver as was once the case.

As has been argued in Chapter II the Careers Service has one vital characteristic, and that is its localised delivery of its services. Any attempt to impose a national structure on this

would undoubtedly be a mistake, increasing its bureaucracy and decreasing its professionalism. What has been presented earlier is a case for a flexible and properly client-centred Service. In order to offer this the continuation of present local autonomy is essential.

Some points which arise directly from this research suggest possible ways in which the Careers Service might respond to changing circumstances. The need to keep a base in the employment market would seem to be paramount, especially from the point of view of client expectations. Employer contact work is not unique to the Careers Service, since both the Manpower Services Commission's Jobcentres and private employment agencies do this. However, the introduction of the Youth Training Scheme has offered the opportunity for better liaison and cooperation with employers than ever before, to the benefit of both sides. In particular it offers the chance for careers officers to better understand the particular uniqueness of every job vacancy, in parallel with the particular uniqueness of every client. If talent-matching is going to continue then let it at least demonstrate a detailed awareness of factors other than those which are obvious and superficial. Construct theory demonstrates an approach which can contribute significantly to this awareness, because its focus on learning to look creatively at all situations puts the emphasis on the perception of individual differences, both in relation to people and social situations such as work.

This research has emphasised the importance of helping clients

to learn to make and carry out their own decisions. This includes the ability to determine their own individual criteria for choosing jobs. The move towards self-selection vacancy displays in careers offices is essential if this aim is to be properly fulfilled. Young people must be given the opportunity to make their own choices and the organisation should not prevent this. Of course some individuals will need extra help if they lack confidence or have other difficulties, but this should not be used to justify not providing information to those who are able to use it.

The research also emphasises the need to always keep the client's own perspective in mind when offering guidance. Even the youngest client needs to be encouraged to take decision-making responsibility. The Careers Service needs to be constantly aware of the effect its administrative procedures have on the individual. Indeed a greater move forward could be achieved, not by withdrawing from current responsibilities but by less concern with maintaining information systems about those who do not need or want help. This is not to decry the importance of knowing who the client group are, particularly those still in full-time education. It is essential to see that all potential clients are made aware of the Service and what it can offer them personally, and to make such provisions readily available. It is not however necessary to keep detailed written records of every contact with an individual, particularly during the more exploratory stages of vocational development. Indeed in a more flexible working system where clients refer themselves, often

in situations less formal than a planned interview, such record-keeping becomes impossible. What is needed is a clear statement at relevant points, agreed by both young person and counsellor, about continuing decisions and their related courses of action and anticipated outcomes. These may only be reached in some cases after several months of ongoing developmental guidance, given the opportunity for this to be provided.

In terms of the use of repertory grids the value of these has been demonstrated conclusively in the research, both as a guidance aid for the careers officer and as a self-awareness aid for the client. Using such grids in a computer-based interactive form presents problems of resources and access to them, which are unlikely to be resolved in view of current local authority financial constraints. Any use of grid technique by the Careers Service must therefore be achieved by other means. Manual elicitation of grids in interviews, with subsequent computer analysis, would be a possible option. However manual grids can prove time-consuming. This defeats some of the aims of the research which were concerned with developing an aid to interviewing which could be shown to be more cost and resources effective. It also compromises the particular feature of interaction, which was shown to be of special value. This idea must consequently be rejected here.

The better alternative is to make use of whatever computer facilities are available in schools. The grid program could be used within the context of careers education, and the print-out used in any subsequent interviews with the careers officer. Even

more in keeping with this research would be the development of a computerised grid program which could be used by young people themselves on some of the more popularly available home micro-computers.

The development of a wider personal construct theory approach to vocational guidance by the Careers Service is a larger issue. The signs are that a number of careers officers are prepared to consider such a theoretical base in view of the decreasing usefulness of other perspectives in explaining individual behaviour. As has already been suggested it is possible for a careers officer to use a construct theory approach to each client, even if the organisational context does not support it. Construct theory offers a special insight into the vocational awareness needs of each individual in terms of construct development. The careers officer can therefore make a particular contribution to identifying the specific careers education needs of each young person.

It was not the original purpose of this research to look at careers education. Indeed one of the main aims was that of developing a useful tool for the careers officer in trying to understand client perspectives at any given stage. However the research has moved away from the careers officer and towards the client. The emphasis has now become placed on the client's own self-perception. The development of a personal construct system relating to work and vocational choice can be seen to be a rather long-term process. This implies that a more long-term approach to the counselling and guidance situation

is required. It is necessary for the careers officer to be more regularly and easily available. The one-off individual interview is no longer satisfactory, although the organisation of schools too often still relies on it. Indeed if the careers interview is to be of any use the careers officer must be involved in the planning of what leads up to and follows it. The implications for careers education are discussed below.

What is implied here in relation to the Careers Service is not necessarily that the role of careers officer and careers teacher should be combined. The importance of retaining some independence of the educational system in relation to the employment and training market has already been mentioned. If the Careers Service is not seen by clients and employers as offering a job placement service it would lose all credibility, as well as government support and finance perhaps. Equally most careers officers continue to have contact with many clients after they leave education, and often during periods of unemployment with which their personal construct systems are not adequately equipped to cope.

What is being suggested is that at very least a closer working relationship between careers officer and teacher could be of benefit to the individual young person. Perhaps, as in Coventry Careers Service, careers officers could be moved into schools on an almost full-time basis. This would allow close cooperation, an ongoing relationship with the client group, and still maintain a degree of autonomy by being identified as careers officers, not as teachers. The I.L.E.A. Careers Service

has been trying a limited experiment on this basis, which has been watched with interest and has already demonstrated many benefits and few disadvantages. A similar system already operating in the Further Education colleges appears to work well.

IMPLICATIONS FOR CAREERS EDUCATION

The main implication for careers teachers in the research results, as for careers officers, is the importance of recognising the uniqueness of the individual young person's perceptions and needs. Much careers education takes place in classroom groups where individual needs may get forgotten.

Practising careers officers are well aware of clients who have been through an apparently well-planned and carried out careers education programme, and yet whose own construct systems have been little affected in terms of increased self-awareness or realism or ability to make decisions about themselves. In some schools anyway, where careers education is concentrated in the fifth year, much of the programme takes place after the careers interview rather than before it.

Close cooperation between careers teacher and careers officer could at least try to ensure that some of the programme, such as work experience for example, is individualised with the aim of beneficial construct change or development.

Like careers officers, careers teachers are perhaps suspicious of theory and therefore sometimes lack any coherent basis for what they do beyond basic information-giving. An understanding

of personal construct theory could offer them such a basis.

As has already been suggested schools are better equipped with computers to make use of repertory grid programs, so perhaps these could be used more within the careers education programme. The vocational awareness of young people could be improved considerably by carefully planned use of such grids both in group situations and individually. Repertory grids elicited from individuals at various times could be one way of identifying different stages of vocational maturity, and necessary for ensuring that the careers education programme is relevant to individual needs in developing this.

CONCLUSION

This thesis has been about how individuals come to make and carry out vocational decisions, and the psychological processes which underly them. From the theories about the vocational choice process, through the practice of vocational guidance and its limitations as seen in the work of the Careers Service, a research programme was carried out to investigate ways in which theory and practice might become more closely related, whilst staying within the limitations of current constraints.

Throughout the viewpoint has been that of the practising careers officer, not that of a purely academic researcher. As the research progressed the emphasis has moved away from the Careers Service and its officers' need to understand their clients, towards a more genuinely client-centred emphasis on

the clients' need to understand themselves. This emphasis is enhanced by the acceptance of a personal construct theory approach to guidance which inevitably must affect the organisational procedures of the Service, enabling clients to make their own decisions. The late George Kelly would undoubtedly have approved of such a move.

ADDENDUM: THE FUTURE

It is necessary at this stage to add a few comments to update on changes which have occurred since the research was started. As the complexity of choices open to young people has increased in recent years, there has been an increase in awareness among careers officers of the need to better understand the processes involved in these choices. There are encouraging signs that personal construct psychology is being adopted by many individuals as providing fresh insights in relation to vocational guidance. In some Careers Services there have been well organised and systematic training sessions for groups of careers officers in the use of various appropriate techniques. As has already been mentioned the computer program from this research has played a part in these sessions. However any serious development of the ideas involved not only requires interest from individual officers, but also a management commitment to devoting time and resources to this. It is ironic that the developments taking place elsewhere have not

so far been adequately reflected in the I.L.E.A. Careers Service where the research was carried out. For example the computer program is still not available for careers officers' use. There is some renewed interest in the careers education context, since the newly appointed Careers Education Inspector was involved early on in the research in his role as Careers Advisory Teacher, and has expressed a wish to look at construct theory again in relation to careers education. However this must be seen in relation to the threat to the I.L.E.A. in terms of the government's proposals to abolish it, and much good work could be lost. Within these proposals the future of the Careers Service is still very uncertain.

A recent joint booklet from the Department of Education and Science and the Department of Employment, entitled 'Working Together for a Better Future', emphasises the importance of careers education for young people within the context of a successful economy. The Careers Service is seen as playing an essential role in this. At the same time there has been some confusion over whether careers education was to be included in the core of the proposed national curriculum for schools, and so far it has received little mention. In addition any improvements in careers education and guidance may have resource and finance implications which are not mentioned in the booklet.

Over recent years there have been a number of improvements which have been initiated and supported by organisations such as the National Association of Careers and Guidance Teachers (NACGT), and the National Institute for Careers Education

and Counselling (NICEC). However, schools in many areas are now experiencing the effects of population changes which have resulted in falling school rolls, followed by school closures and amalgamations. Careers education still does not have a sufficiently high profile to be protected in such circumstances. In a large number of schools the careers teacher post is at best a part-time one, and in many cases careers education is shared by two or more teachers in a school, with only a small allocation of time. With current financial restrictions it seems unlikely that this can change, regardless of the official policy statements.

At the same time there have been moves in the past to question the need for a Careers Service, and it is not unreasonable to suggest that the present government's policies might ultimately leave careers guidance open to some form of privatisation, perhaps being taken over by private employment agencies. Within this context the guidance aspect would almost certainly be diminished, with a concentration on the placement into employment. Such an emphasis is already reflected in the attitude towards higher education and the increasing bias in funding towards vocational courses which are seen as meeting the supposed needs of industry rather than the educational needs of the individual.

In the wider context there are other proposals soon to be implemented which will considerably restrict the role of the Manpower Services Commission, returning several of its functions to the Department of Employment. Its staffing and budget are

to be cut and its role is to be limited to that of a training organisation. This, coupled with changes in supplementary benefit regulations affecting young people, will undoubtedly have an effect on the work of the Careers Service in relation to its clients. This is especially so where young people may find themselves under pressure to take any available jobs or Youth Training Scheme places, regardless of their own aims or aspirations.

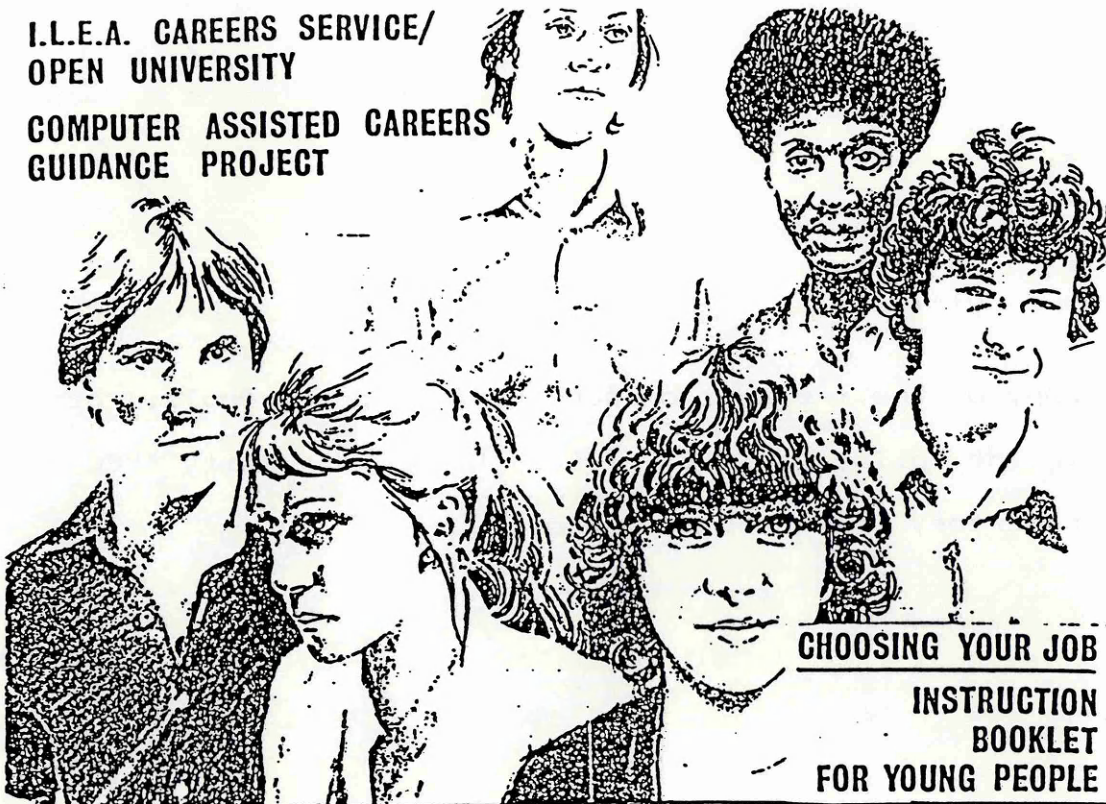
In these circumstances the careers officer will more than ever need a sensitivity towards young people, in order to help them to make effective decisions within the new constraints. It is hoped that careers education and guidance will continue to be regarded as important in this, not only in intent but also in practice. The value of the contribution which such education and guidance might make to the welfare of any work-force should not be underestimated, even if it is difficult to measure. It is essential for helping individuals to achieve personal satisfaction in their continuing education and their employment, not only young people but adults as well. Employers would also benefit from having satisfied employees, and there are welcome signs of an increased awareness of this among employers themselves, reflected in a willingness to be involved in school work experience programmes. In all this it is hoped that George Kelly's personal construct psychology can continue to play a useful part, following on from the research and developments which have been the subject of this thesis.

APPENDIX 1

Copy of the instruction booklet for young people, used in the pilot trials of the Open University 'KELLY' repertory grid computer program.

I.L.E.A. CAREERS SERVICE/
OPEN UNIVERSITY

COMPUTER ASSISTED CAREERS
GUIDANCE PROJECT



CHOOSING YOUR JOB
INSTRUCTION
BOOKLET
FOR YOUNG PEOPLE

CHOOSING A JOB

HOW TO USE THE COMPUTER PROGRAM

What's it all about?

Choosing a job for when you leave school can be hard. There seem to be so many jobs to choose from, and you can't really tell if you will like a job or not until you try it.

Finding out what school exams you need for any job is the easy part. You can do this from books or ask your Careers Officer. It is much harder to decide what are the other things most important to you yourself in choosing the right job from among all those you could do.

Reading this booklet probably means that your careers officer has asked you if you would like to try a special computer program which has been designed to help you think about jobs. If you read this carefully, and think about it before you use the computer, you will get a lot more out of it. When you have finished you might be asked a few questions about how useful it has been.

You do not need to understand how the computer works - only what it does, and how to use the computer terminal. Remember that if you have any problem ask your careers officer for help.

What it doesn't do

You might have heard already about computer programs where you can put in a list of your exam.subjects and your interests, and the computer prints a list of jobs to match. You can do this for yourself anyway using books in the careers library at school, although it might take you longer. This computer program doesn't do it for you.

What it does do

It is more difficult to decide which job out of your list would be best for you. Since every person is different, what each person wants out of a job is different. Only you can decide what you want to get out of your job. So this computer program starts with your own ideas about work. It will help you to start thinking about the important things in choosing your right job. But it is only a start: you will talk it over with the careers officer after.

You may find it quite hard to put some of your ideas into words. You may even find that some of your ideas change as you do it, and that is part of the interest in using it.

2

Using the computer terminal

You might have seen a computer terminal in school: it looks rather like a large typewriter. The letters and numbers are in the same places as on a typewriter - not from A to Z - so you may find it a bit strange to use at first. You do not need to be able to type: one finger is good enough.

In most cases the computer will only need you to type in a number, or one or two words. After everything you type you must press the 'return' button to send the information through to the computer. Try to remember this as it is important.

The link to the computer is by telephone. Sometimes the message doesn't reach the computer properly and you have to re-type the same line. Any other problems will be sorted out as you use it.

Before using the computer

The first thing you have to do is make a list of jobs to think about. We suggest that you start with some jobs that you have thought about doing yourself - either jobs you are still interested in, or jobs you thought about when you were younger and have now changed your mind about. Some could be jobs that you know something about (like a job done by a friend or somebody in your family) but which you might not want to do yourself. It is important that some of the jobs on the list are ones that you wouldn't like to do anyway.

3

Your job list

You must have not less than 5 jobs in your list, but not more than 10. Here are some ideas: you don't have to use all of them.

jobs you have thought about and would still like to do now

jobs you have thought about and don't want to do now

jobs done by people in your own family (mum, dad, brother, sister, uncle, or others)

jobs done by friends who have left school and are now working

jobs you know something about, but are not sure whether or not you would like them

part time, Saturday or holiday jobs that you have done.

Now write out your list of jobs in the spaces below. It doesn't matter what order they are in, and you don't have to fill all the lines.

- | | |
|---------|----------|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

4

when you have done this, have a think about the jobs you have written down. Can you see some of the ways in which some of the jobs are like each other, and different from the others? Don't write anything down for the moment, but try to remember a few of the things you think of.

Here is an example: how many of the jobs in your list are outdoor jobs? How many are indoors? Some of them are both perhaps.

Using the computer - how to start

The careers officer will start the computer for you. It will then ask you how many jobs you want to put in (check your list for this). You have to type in the list of jobs one at a time before the program can start. When you have finished this list, it will print out three of the jobs from your list and ask you which two are like each other, and which is the odd one out. Here is an example:

- 1 gardener
- 2 office junior
- 3 bricklayer

Can you see some ways in which two are like each other, and the other one is the odd one out? Perhaps you might say that gardener and bricklayer are mostly working outdoors and office junior indoors - so the odd one out is office junior. Or you might say that office junior and bricklayer often work with a group of people, but gardener mostly works by himself.

5

You will be asked to type in a word or short sentence to show how you chose the odd one: in our first example that would be outdoors - indoors. Then you have to give each of your list of jobs a score from 1 up to 5, where 1 is all outdoors and 5 is all indoors. A 3 score would mean that the job is both outdoors and indoors about the same amount. Here is a practice example: write in the number 1, 2, 3, 4 or 5 which you think is the right score for each job on outdoors (1) to indoors (5).

1	gardener
2	office junior
3	bricklayer
4	postman
5	hairdresser
6	sales assistant
7	electrician
8	police cadet

The computer uses the word 'rating' for these scores, and the word 'construct' for the words or short sentences you type in to describe the jobs. Outdoors - indoors is a construct. Try to remember these words so that you know what they mean when you see them.

One other point. When you think of the reasons why the jobs are like each other try to make sure that it is something that can be used with all your jobs. For example, all the jobs in our list above can be scored on outdoors - indoors, and you can probably use all the scores from 1 to 5 at least once. But if you said something like:

6

'works in a shop - doesn't work in a shop' to show how shop assistant is different to gardener and bricklayer, then it doesn't really work for all the jobs. You would only use the scores 1 and 5. All the jobs on our list would score 5 (doesn't work in a shop) except sales assistant, which would score 1.

Making you think

The sets of 3 jobs that will be printed each time are called 'triads'. When you have used several of these triads and scored (rated) the jobs, the computer will start to show you where you have given two jobs the same scores. These are called 'matches'. If two of your jobs have almost the same set of scores you will have to think of some way in which the two jobs are as different as possible. This will split the scores.

If you can't think of any way in which they are different, you can change both jobs for just one. Here is an example: bricklayer and plasterer could both be changed to builder.

Don't worry if this seems a bit confusing: you will understand it better when you use the computer. Your careers officer will be around to help.

This part is always the most difficult anyway because it really does make you think about your jobs. You may find out that you don't know as much as you thought about some of the jobs on your list.

7

How to finish

The computer will give you a choice of when to stop - when you think you have done enough. It will then print out a lot of results. These will show a list of your jobs, a list of your constructs, and the sets of scores you gave your jobs. There will be a few other scores that your careers officer will explain to you, which show how you group your jobs together in the ways you think about them.

After using the computer

Your careers officer will see you again to talk about the results and suggest some other jobs you might think about. There may also be some books or careers leaflets that you can read about these extra jobs.

You will be given a folder in which you can keep your computer print-out, your DEVAT test results if you have done any of these, a note written by your careers officer on what was decided at your interview afterwards, and any careers booklets you may be given later.

If there is any of this that you don't quite understand just ask the careers officer before you use the computer. Don't let anything worry you: we hope that you will enjoy using it and that it will help you to sort out your ideas.

APPENDIX 2

Typical grid print-out and analysis from the
'KELLY' program

***** SUMMARY *****

PERSON'S NAMES

- 2 POLICE
- 3 MECHANIC
- 4 CARPET FITTER
- 5 R.A.F.
- 6 BUILDER
- 8 WINDOW CLEANER
- 9 ELECTRICIAN

CONSTRUCTS

- KEEPING LAW AND ORDER
- 1 TO
- NOT KEEPING LAW AND ORDER

- WEAR UNIFORM
- 2 TO
- CASUAL WEAR

- ON BUILDING SITE
- 3 TO
- ANYWHERE

- ONE TRADE
- 4 TO
- GENERAL

- APPRENTICESHIPS
- 5 TO
- ON THE JOB TRAINING

- NOT TECHNICAL
- 6 TO
- TECHNICAL

- FEW JOBS
- 7 TO
- PLENTY OF JOBS

- NO SCIENCE
- 8 TO
- SCIENCE NEEDED

- WORK IN ONE PLACE
- 9 TO
- CAN GO ABROAD

GRID OF RATINGS

CONST RUCTS	ELEMENTS						
	2	3	4	5	6	8	9
1	1	1	5	1	5	5	4
2	1	4	5	1	4	5	4
3	4	3	1	3	1	5	1
4	3	2	1	3	5	1	1
5	3	1	1	2	5	5	1
6	2	5	2	3	1	1	5
7	4	1	4	4	3	2	4
8	1	3	1	3	3	1	5
9	1	2	2	5	2	1	2

ELEMENT MATCHING SCORES

	2	3	4	5	6	8	9
3	55						
4	55	55					
5	75	63	47				
6	47	47	63	44			
8	55	44	66	30	63		
9	41	69	75	50	55	41	

CONSTRUCT MATCHING SCORES

	1	2	3	4	5	6	7	8
2	71							
3	-29	-15						
4	-15	-29	28					
5	28	0	42	57				
6	-36	-8	7	7	-36			
7	14	0	0	14	0	7		
8	-8	7	7	35	-8	57	21	
9	-22	-22	7	35	-8	28	21	42

DO YOU WANT A CLUSTER ANALYSIS OF

1. ELEMENT MATCHING SCORES
2. CONSTRUCT MATCHING SCORES
3. BOTH
0. NEITHER

TYPE 1,2,3 OR 0 ? 3

ELEMENT MATCHING SCORES

LINKAGE LIST

2	JOINS WITH	5	TO FORM	10	AT A SIMILARITY OF	75
3	JOINS WITH	9	TO FORM	11	AT A SIMILARITY OF	75
11	JOINS WITH	4	TO FORM	12	AT A SIMILARITY OF	70.83333
6	JOINS WITH	8	TO FORM	13	AT A SIMILARITY OF	63.88889
12	JOINS WITH	13	TO FORM	14	AT A SIMILARITY OF	56.94444
10	JOINS WITH	14	TO FORM	15	AT A SIMILARITY OF	46.94444

ELEMENT MATCHING SCORE		
76.40278	60.97222	45.54167
!*****!*****!		
2 :--I-----	I-----	I--
5 :--/		I
4 :-----I-----	I-----	/
3 :--I-----/	I	
9 :--/	I	
6 :-----I-----/		
8 :-----/		

CONSTRUCT MATCHING SCORES

LINKAGE LIST

1	JOINS WITH	2	TO FORM	10	AT A SIMILARITY OF	85.71429
4	JOINS WITH	5	TO FORM	11	AT A SIMILARITY OF	57.14286
6	JOINS WITH	8	TO FORM	12	AT A SIMILARITY OF	57.14286
3	JOINS WITH	11	TO FORM	13	AT A SIMILARITY OF	35.71429
12	JOINS WITH	9	TO FORM	14	AT A SIMILARITY OF	35.71429
14	JOINS WITH	7	TO FORM	15	AT A SIMILARITY OF	16.66667
10	JOINS WITH	13	TO FORM	16	AT A SIMILARITY OF	16.66667
16	JOINS WITH	15	TO FORM	17	AT A SIMILARITY OF	13.21429

CONSTRUCT MATCHING SCORE		
89.33929	49.46429	9.589286
!*****!*****!		
1 :--I-----	I-----	I-I--
2 :--/		I I
3 :-----I-----	I-----	/ I
4 :-----I-----/		I
5 :-----/		I
7 :-----I-----	I-----	I-/
9 :-----I-----/		
6 :-----I-----/		
8 :-----/		

READY!

APPENDIX 3

Copy of the revised instruction sheet used with
the 'JOBSORT' micro-computer program

CHOOSING A JOB

Our computer program is a way of helping you decide some of the things that matter most to you when you have to choose a job.

The computer will give you all the help you need to use the program, as you do it. Before you start you have to make a list of jobs to use. We suggest that you start with some jobs that you have thought about doing yourself - either jobs you are still interested in, or jobs you thought about when you were younger but have now changed your mind about.

Some could be jobs that you know something about (like a job done by a friend or somebody in your family) but which you might not want to do yourself. It is better if some of the jobs on your list are ones you wouldn't like to do anyway, because dislikes are just as important as likes when you are choosing.

To help you with your list we have already given you 4 jobs that almost everybody knows something about, because they are people you probably meet often.

Now you have to try to fill all the gaps with other jobs. Here are some ideas: you don't have to use all of them.

jobs you have thought about and would still like to do now

jobs you have thought about and don't want to do now

jobs done by people in your own family (mum, dad, brother, sister, uncle or others)

jobs done by friends who have left school and are now working

jobs you know something about, but are not sure whether or not you would like them

part-time, Saturday or holiday jobs that you have done

Write out your list of jobs in the spaces below; it doesn't matter what order they are in.

Don't put down any jobs that we have already given you.

- | | |
|-----------------------|-------------------------|
| 1..... | 6..... |
| 2..... | 7..SALES ASSISTANT..... |
| 3..MILKMAN/WOMAN..... | 8..POLICEMAN/WOMAN..... |
| 4..... | 9..... |
| 5..TEACHER..... | 10..... |

APPENDIX 4

Typical run, and grid print-out of the 'JOBSORT' micro-computer program. Each block represents a single screen display as it appears on the video display unit.

CAREERS OFFICER INPUT

WHICH VERSION OF PROGRAM TO BE USED ?

- A PROVIDED ELEMENTS
- B OWN ELEMENTS

TYPE A OR B

? A

I.L.E.A. CAREERS SERVICE

BALHAM CAREERS OFFICE

COMPUTERISED JOB PROGRAM

PLEASE TYPE IN YOUR FIRST NAME
- THEN PRESS THE YELLOW 'CR' KEY

? MICK

HELLO MICK. THIS COMPUTER
PROGRAM HAS BEEN WRITTEN BY YOUR
CAREERS OFFICER, TO HELP YOU TO
THINK ABOUT WHAT MIGHT BE IMPORTANT
TO YOU IN CHOOSING A JOB.

WHEN YOU FINISH READING ANYTHING
IN THIS PROGRAM, YOU CAN CARRY ON
AS SOON AS YOU ARE READY. JUST
TYPE 'GO' AND PRESS 'CR'.

DO IT NOW, IF YOU ARE READY

? GO

WOULD YOU LIKE SOME HELP ON HOW
TO USE THIS COMPUTER ?

TYPE IN 'YES' OR 'NO' AND PRESS
THE YELLOW 'CR' KEY

? YES

REMINDERS ABOUT USING THIS COMPUTER

- 1 REMEMBER - I AM A VERY PATIENT
COMPUTER. I CAN WAIT FOR AS LONG
AS YOU NEED TO THINK OF YOUR
ANSWERS, SO YOU DON'T NEED TO
HURRY.
- 2 ALWAYS PRESS THE YELLOW 'CR' KEY
WHEN YOU FINISH TYPING SOMETHING.
- 3 YOU CAN CORRECT TYPING MISTAKES
BY PRESSING THE YELLOW 'INST/DEL'
KEY (BOTTOM ROW, 3RD FROM LEFT)
- PRESS ONCE FOR EACH LETTER.

WHEN YOU ARE READY TO CARRY ON
TYPE 'GO' AND PRESS 'CR'.

? GO

NOW MICK, I WANT YOU TO TYPE IN YOUR
LIST OF JOBS.

I WILL FILL IN THE JOBS WE HAVE
ALREADY GIVEN YOU.

HOW MANY JOBS HAVE YOU GOT ON YOUR
LIST ? TYPE IN THE NUMBER.

? 10

TYPE IN THE JOBS ONE AT A TIME
AFTER EACH ?

- 1 ? OFFICE JUNIOR
- 2 ? CHEF
- 3 MILKMAN/WOMAN
- 4 ? CARPENTER
- 5 TEACHER
- 6 ? BUS DRIVER
- 7 SALES ASSISTANT
- 8 POLICEMAN/WOMAN
- 9 ? ELECTRICIAN
- 10 ? NURSE

WHEN YOU ARE READY TO CARRY ON
TYPE 'GO' AND PRESS 'CR'.

? GO

TRIAD

- 7 SALES ASSISTANT
- 4 CARPENTER
- 8 POLICEMAN/WOMAN

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

DO YOU NEED SOME IDEAS TO HELP YOU ?
TYPE 'YES' OR 'NO' AND PRESS 'CR'

? YES

HERE ARE SOME KEY WORDS ABOUT
JOB DIFFERENCES. TRY THINKING
ABOUT ANY ONE OF THESE:

HOURS
PLACE
CONDITIONS
PAY
TRAINING
RESPONSIBILITY
DANGER
AGE
TRAVEL
SKILLS
PEOPLE
QUALIFICATIONS
PROSPECTS

TRIAD

7 SALES ASSISTANT
4 CARPENTER
8 POLICEMAN/WOMAN

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

TYPE IN THE NUMBER OF THE ODD ONE OUT

? 7

TYPE JUST A FEW WORDS
TO SAY WHY YOU THINK
SALES ASSISTANT IS DIFFERENT FROM
CARPENTER AND POLICEMAN/WOMAN

SALES ASSISTANT IS: ? INDOORS

NOW TYPE THE OPPOSITE OF WHAT YOU HAVE
JUST SAID, TO SAY WHY
CARPENTER AND POLICEMAN/WOMAN ARE
LIKE EACH OTHER BUT DIFFERENT FROM
SALES ASSISTANT

CARPENTER AND POLICEMAN/WOMAN ARE:
? OFTEN OUTDOORS

*** SCORING ***

NOW YOU HAVE TO GIVE EACH OF YOUR JOBS
A SCORE FROM 1 TO 5

IF THE JOB IS ALL 'INDOORS'
THEN SCORE IT 1

IF THE JOB IS ALL 'OFTEN OUTDOORS'
THEN SCORE IT 5

IF IT IS A BIT OF BOTH THEN SCORE IT 2,3
OR 4

IF YOU DO NOT UNDERSTAND
WHAT YOU HAVE TO DO THEN ASK
YOUR CAREERS OFFICER FIRST

OTHERWISE TYPE 'GO' TO CARRY ON
WITH THE SCORING

? GO

SCORE YOUR JOBS ON THIS:

INDOORS ** 1
1 TO
OFTEN OUTDOORS ** 5

1 OFFICE JUNIOR * ? 1
2 CHEF * ? 1
3 MILKMAN/WOMAN * ? 5
4 CARPENTER * ? 4
5 TEACHER * ? 2
6 BUS DRIVER * ? 2
7 SALES ASSISTANT * ? 1
8 POLICEMAN/WOMAN * ? 3
9 ELECTRICIAN * ? 2
10 NURSE * ? 2

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

TRIAD

5 TEACHER
2 CHEF
1 OFFICE JUNIOR

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

DO YOU NEED SOME IDEAS TO HELP YOU ?
TYPE 'YES' OR 'NO' AND PRESS 'CR'

? NO

TYPE IN THE NUMBER OF THE ODD ONE OUT ?
5

TYPE JUST A FEW WORDS
TO SAY WHY YOU THINK
TEACHER IS DIFFERENT FROM
CHEF AND OFFICE JUNIOR

TRY NOT TO USE ANY OF THE SAME
REASONS YOU HAVE ALREADY USED

TEACHER IS: ? MORE RESPONSIBILITY

NOW TYPE THE OPPOSITE OF WHAT YOU HAVE
JUST SAID, TO SAY WHY
CHEF AND OFFICE JUNIOR ARE
LIKE EACH OTHER BUT DIFFERENT FROM
TEACHER

CHEF AND OFFICE JUNIOR ARE:
? LESS RESPONSIBILITY

SCORE YOUR JOBS ON THIS:

MORE RESPONSIBILITY ** 1
2 TO
LESS RESPONSIBILITY ** 5

1 OFFICE JUNIOR * ? 5
2 CHEF * ? 4
3 MILKMAN/WOMAN * ? 4
4 CARPENTER * ? 4
5 TEACHER * ? 2
6 BUS DRIVER * ? 2
7 SALES ASSISTANT * ? 5
8 POLICEMAN/WOMAN * ? 2
9 ELECTRICIAN * ? 3
10 NURSE * ? 2

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

DO YOU WANT A REMINDER OF
THE WORDS YOU HAVE USED TO
DESCRIBE THE JOBS SO FAR ?

TYPE 'YES' OR 'NO'

? NO

TRIAD

3 MILKMAN/WOMAN
10 NURSE
5 TEACHER

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

DO YOU NEED SOME IDEAS TO HELP YOU ?
TYPE 'YES' OR 'NO' AND PRESS 'CR'

? NO

TYPE IN THE NUMBER OF THE ODD ONE OUT ?
5

TYPE JUST A FEW WORDS
TO SAY WHY YOU THINK
TEACHER IS DIFFERENT FROM
MILKMAN/WOMAN AND NURSE

TRY NOT TO USE ANY OF THE SAME
REASONS YOU HAVE ALREADY USED

TEACHER IS: ? NORMAL HOURS

NOW TYPE THE OPPOSITE OF WHAT YOU HAVE
JUST SAID, TO SAY WHY
MILKMAN/WOMAN AND NURSE ARE
LIKE EACH OTHER BUT DIFFERENT FROM
TEACHER

MILKMAN/WOMAN AND NURSE ARE
? UNSOCIAL HOURS

SCORE YOUR JOBS ON THIS:

NORMAL HOURS ** 1
3 TO
UNSOCIAL HOURS ** 5

1 OFFICE JUNIOR * ? 1
2 CHEF * ? 4
3 MILKMAN/WOMAN * ? 4
4 CARPENTER * ? 1
5 TEACHER * ? 2
6 BUS DRIVER * ? 5
7 SALES ASSISTANT * ? 1
8 POLICEMAN/WOMAN * ? 5
9 ELECTRICIAN * ? 2
10 NURSE * ? 5

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

DO YOU WANT A REMINDER OF
THE WORDS YOU HAVE USED TO
DESCRIBE THE JOBS SO FAR ?

TYPE 'YES' OR 'NO'

? YES

INDOORS / OFTEN OUTDOORS

MORE RESPONSIBILITY / LESS RESPONSIBILITY

NORMAL HOURS / UNSOCIAL HOURS

WHEN YOU ARE READY TO CARRY ON
TYPE 'GO' AND PRESS 'CR'

? GO

TRIAD

6 BUS DRIVER
3 MILKMAN/WOMAN
1 OFFICE JUNIOR

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

DO YOU NEED SOME IDEAS TO HELP YOU ?
TYPE 'YES' OR 'NO' AND PRESS 'CR'

? NO

TYPE IN THE NUMBER OF THE ODD ONE OUT ?
1

TYPE JUST A FEW WORDS
TO SAY WHY YOU THINK
OFFICE JUNIOR IS DIFFERENT FROM
BUS DRIVER AND MILKMAN/WOMAN

TRY NOT TO USE ANY OF THE SAME
REASONS YOU HAVE ALREADY USED

OFFICE JUNIOR IS: ? IN ONE PLACE

NOW TYPE THE OPPOSITE OF WHAT YOU HAVE
JUST SAID, TO SAY WHY
BUS DRIVER AND MILKMAN/WOMAN ARE
LIKE EACH OTHER BUT DIFFERENT FROM
OFFICE JUNIOR

BUS DRIVER AND MILKMAN/WOMAN ARE:
? MOVING AROUND

SCORE YOUR JOBS ON THIS:

IN ONE PLACE ** 1
4 TO
MOVING AROUND ** 5

1 OFFICE JUNIOR * ? 1
2 CHEF * ? 1
3 MILKMAN/WOMAN * ? 5
4 CARPENTER * ? 2
5 TEACHER * ? 2
6 BUS DRIVER * ? 5
7 SALES ASSISTANT * ? 1
8 POLICEMAN/WOMAN * ? 3
9 ELECTRICIAN * ? 3
10 NURSE * ? 1

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

*** ELEMENT MATCH ***

POLICEMAN/WOMAN MATCHES NURSE
BY 81 PERCENT

THIS MEANS THAT AS YOU HAVE SCORED
THEM SO FAR THESE 2 JOBS ARE
NEARLY THE SAME

CAN YOU THINK OF A WAY IN WHICH
THESE 2 JOBS ARE DIFFERENT TO
EACH OTHER ?

TYPE 'YES' IF YOU WANT TO SAY
WHAT THE DIFFERENCE IS

OTHERWISE TYPE 'NO' IF YOU REALLY
CAN'T THINK OF ANYTHING AND
YOU JUST WANT TO CARRY ON

? YES

POLICEMAN/WOMAN IS DIFFERENT TO
NURSE BECAUSE POLICEMAN/WOMAN
IS ? AUTHORITARIAN ROLE

AND NURSE
IS ? HELPING ROLE

SCORE YOUR JOBS ON THIS:

AUTHORITARIAN ROLE ** 1
5 TO
HELPING ROLE ** 5

1 OFFICE JUNIOR * ? 5
2 CHEF * ? 4
3 MILKMAN/WOMAN * ? 5
4 CARPENTER * ? 5
5 TEACHER * ? 3
6 BUS DRIVER * ? 3
7 SALES ASSISTANT * ? 5
8 POLICEMAN/WOMAN * ? 2
9 ELECTRICIAN * ? 5
10 NURSE * ? 1

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? YES

TYPE IN THE NUMBER OF THE JOB

? 6

NOW TYPE IN THE NEW SCORE

? 5

DO YOU WANT TO CHANGE ANY MORE ?

NO

YOUR IDEAL JOB

NOW MICK, TRY TO IMAGINE A JOB
THAT WOULD BE EXACTLY RIGHT
FOR YOU.

TRY TO THINK WHAT THIS JOB
MIGHT BE LIKE.

I'M GOING TO ASK YOU TO GIVE IT A
SCORE ON EACH OF THE WAYS YOU HAVE
DESCRIBED THE OTHER JOBS.

TYPE 'GO' WHEN YOU ARE READY TO
CARRY ON WITH THE SCORING

? GO

NOW SCORE YOUR IDEAL JOB
IN THE SAME WAY YOU HAVE SCORED
THE OTHER JOBS

INDOORS ** 1
1 TO
OFTEN OUTDOORS ** 5

YOUR IDEAL JOB SCORES * ? 2

MORE RESPONSIBILITY ** 1
2 TO
LESS RESPONSIBILITY ** 5

YOUR IDEAL JOB SCORES * ? 2

NORMAL HOURS ** 1
3 TO
UNSOCIAL HOURS ** 5

YOUR IDEAL JOB SCORES * ? 2

IN ONE PLACE ** 1
4 TO
MOVING AROUND ** 5

YOUR IDEAL JOB SCORES * ? 4

AUTHORITARIAN ROLE ** 1
5 TO
HELPING ROLE ** 5

YOUR IDEAL JOB SCORES * ? 5

DO YOU WANT A REMINDER OF
THE WORDS YOU HAVE USED TO
DESCRIBE THE JOBS SO FAR ?

TYPE 'YES' OR 'NO'

? NO

TRIAD

- 11 YOUR IDEAL JOB
- 1 OFFICE JUNIOR
- 2 CHEF

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

DO YOU NEED SOME IDEAS TO HELP YOU ?
TYPE 'YES' OR 'NO' AND PRESS 'CR'

? YES

HERE ARE SOME KEY WORDS ABOUT
JOB DIFFERENCES. TRY THINKING
ABOUT ANY ONE OF THESE:

HOURS
PLACE
CONDITIONS
PAY
TRAINING
RESPONSIBILITY
DANGER
AGE
TRAVEL
SKILLS
PEOPLE
QUALIFICATIONS
PROSPECTS

TRIAD

11 YOUR IDEAL JOB
1 OFFICE JUNIOR
2 CHEF

CAN YOU THINK OF A WAY IN WHICH
ONE OF THESE JOBS IS DIFFERENT
FROM THE OTHER TWO ?

TYPE IN THE NUMBER OF THE ODD ONE OUT

? 2

TYPE JUST A FEW WORDS
TO SAY WHY YOU THINK
CHEF IS DIFFERENT FROM
YOUR IDEAL JOB AND OFFICE JUNIOR

TRY NOT TO USE ANY OF THE SAME
REASONS YOU HAVE ALREADY USED

CHEF IS: ? OFTEN HAVING TO WORK UNDER PRESSURE

SORRY MICK, BUT YOU HAVE USED TOO MANY
WORDS FOR MY COMPUTER SPACE

TRY TO SAY THE SAME THING WITH LESS WORDS

CHEF IS: ? OFTEN UNDER PRESSURE

NOW TYPE THE OPPOSITE OF WHAT YOU HAVE
JUST SAID, TO SAY WHY
YOUR IDEAL JOB AND OFFICE JUNIOR ARE
LIKE EACH OTHER BUT DIFFERENT FROM
CHEF

YOUR IDEAL JOB AND OFFICE JUNIOR ARE:
? TIME TO THINK

SCORE YOUR JOBS ON THIS:

OFTEN UNDER PRESSURE ** 1
6 TO
TIME TO THINK ** 5

1 OFFICE JUNIOR * ? 4
2 CHEF * ? 2
3 MILKMAN/WOMAN * ? 5
4 CARPENTER * ? 4
5 TEACHER * ? 2
6 BUS DRIVER * ? 3
7 SALES ASSISTANT * ? 4
8 POLICEMAN/WOMAN * ? 3
9 ELECTRICIAN * ? 4
10 NURSE * ? 3
11 YOUR IDEAL JOB * ? 4

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

*** ELEMENT MATCH ***

ELECTRICIAN MATCHES YOUR IDEAL JOB
BY 91 PERCENT

THIS MEANS THAT AS YOU HAVE SCORED
THEM SO FAR THESE 2 JOBS ARE
NEARLY THE SAME

CAN YOU THINK OF A WAY IN WHICH
THESE 2 JOBS ARE DIFFERENT TO
EACH OTHER ?

TYPE 'YES' IF YOU WANT TO SAY
WHAT THE DIFFERENCE IS

OTHERWISE TYPE 'NO' IF YOU REALLY
CAN'T THINK OF ANYTHING AND
YOU JUST WANT TO CARRY ON

? YES

ELECTRICIAN IS DIFFERENT TO
YOUR IDEAL JOB BECAUSE ELECTRICIAN
IS ? TASK ORIENTED

AND YOUR IDEAL JOB
IS ? PEOPLE ORIENTED

SCORE YOUR JOBS ON THIS:

TASK ORIENTED ** 1
7 TO
PEOPLE ORIENTED ** 5

1 OFFICE JUNIOR * ? 3
2 CHEF * ? 3
3 MILKMAN/WOMAN * ? 3
4 CARPENTER * ? 2
5 TEACHER * ? 3
6 BUS DRIVER * ? 2
7 SALES ASSISTANT * ? 3
8 POLICEMAN/WOMAN * ? 3
9 ELECTRICIAN * ? 2
10 NURSE * ? 4
11 YOUR IDEAL JOB * ? 4

DO YOU WANT TO CHANGE ANY OF THESE SCORES ?
TYPE 'YES' OR 'NO' ? NO

DO YOU WANT TO DO ANY MORE ?
YOU CAN CHOOSE TO:

- 1 FINISH NOW
- 2 CARRY ON WITH ANOTHER JOBMATCH

TYPE EITHER 1 OR 2

? 1

THE PRINTER WILL NOW PRINT OUT
A SUMMARY OF WHAT YOU HAVE DONE.

YOUR CAREERS OFFICER WILL TALK
TO YOU ABOUT IT AFTERWARDS.

CAREERS SERVICE - HANDSWORTH

XX

KICK'S GRID

[illegible]

JOB MATCHING SCORES

	1	2	3	4	5	6	7	8	9	10	11
1		75	53	78	64	50	100	46	75	60	67
2	75		57	60	75	60	75	64	64	78	57
3	53	57		67	46	67	53	57	64	50	64
4	78	60	67		64	57	78	53	82	53	67
5	64	75	46	64		64	64	75	75	75	75
6	50	60	67	57	64		50	75	75	75	75
7	100	75	53	78	64	50		46	75	60	67
8	46	64	57	53	75	75	46		64	78	64
9	75	64	64	82	75	75	75	64		64	85
10	60	78	50	53	75	75	60	78	64		71
11	67	57	64	67	75	75	67	64	85	71	

CONSTRUCT MATCHING SCORES

	1	2	3	4	5	6	7
1		36	31	59	-14	40	31
2	36		4	4	40	50	31
3	31	4		36	-10	0	27
4	59	4	36		0	36	27
5	-14	40	-10	0		45	18
6	40	50	0	36	45		45
7	31	31	27	27	18	45	

APPENDIX 5

Interpreting and analysing grid print-out for use in vocational guidance interviews.

INTRODUCTION

This appendix is intended to provide some ideas on how to use print-out from the 'JOBSORT' micro-computer program in careers interviews. The example on the following pages is used to demonstrate a simple cluster analysis of elements and constructs, which is a procedure for identifying relationships within the grid. Used as part of the interview it can increase the client's insight into the grid elicitation process, as well as focussing discussion with the counsellor. The example uses the print-out of a grid which was pre-planned in order to show clearly the information included in the grid summary, and to provide a set of element and construct relationships which are comparatively straightforward for the purpose of explaining the analytic process. Grids may often be more complex than here because the relationships can be less easy to identify. They consequently require further follow-up in interview in order to clarify the ideas involved.

GRID SUMMARY

The first section of the grid includes a numbered list of the elements or jobs used. Below this is a listing of the constructs elicited, with the opposite poles of each construct to left and right of a matrix of the raw scores or ratings of each element on each construct, as entered during the program run (see example in Appendix 4).

These scores can be used to identify how the individual

perceives particular jobs, by looking at their specific ratings on relevant constructs. It is also possible to identify stronger personal likes or dislikes by looking for ratings of 1 or 5 in the 'ideal job' column, since middle ratings generally tend to suggest more neutral feelings.

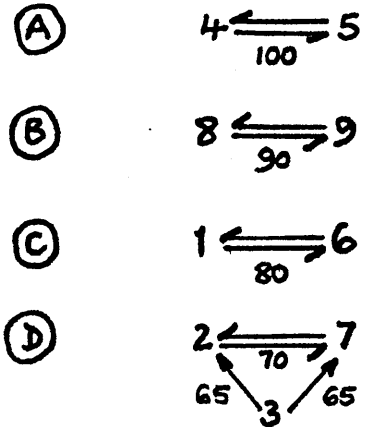
		CARPENTER	NURSE	BUS CONDUCTOR	SALES ASSISTANT	OFFICE JUNIOR	MOTOR MECHANIC	POLICEMAN/WOMAN	SOCIAL WORKER	YOUR IDEAL JOB
		1	2	3	4	5	6	7	8	9
OUTDOORS < 1		2	5	3	5	5	3	3	4	INDOORS
MORE RESPONSIBILITY < 2		5	2	4	5	5	3	2	1	LESS RESPONSIBILITY
ON THE JOB TRAINING < 3		3	4	2	1	1	3	3	5	LONGER/OFF THE JOB TRAINING
VARIED < 4		4	3	4	5	5	3	2	1	ROUTINE
CAN START FROM SCHOOL < 5		1	5	5	1	1	1	1	5	HAVE TO BE OLDER
MESSY JOB < 6		3	5	4	5	5	1	4	5	MOSTLY CLEAN
MOSTLY IN ONE PLACE < 7		2	1	5	1	1	2	3	2	MOVING AROUND
AUTONOMOUS < 8		5	3	4	5	5	4	2	2	FOLLOWING INSTRUCTIONS
NORMAL DRESS < 9		1	5	5	1	1	2	5	1	WEAR UNIFORM
NORMAL HOURS < 10		2	5	4	1	1	2	5	3	UNSOCIAL HOURS/SHIFTS

The middle section of the print-out (below) is a matrix of the element matching scores, which are derived from the raw scores in the first section by carrying out a series of correlations. These can vary from 0, indicating no relationship whatsoever between two elements, up to 100 which indicates that two jobs have been given identical scores on all constructs and are perceived as being alike. In the example shown, elements 4 and 5 have been scored the same throughout.

JOB MATCHING SCORES

		1	2	3	4	5	6	7	8	9
CARPENTER	1		40	55	75	75	80	55	47	47
NURSE	2	40		65	45	45	50	70	67	62
BUS CONDUCTOR	3	55	65		45	45	55	65	47	47
SALES ASSISTANT	4	75	45	45		100	60	40	42	42
OFFICE JUNIOR	5	75	45	45	100		60	40	42	42
MOTOR MECHANIC	6	80	50	55	60	60		65	52	52
POLICEMAN/WOMAN	7	55	70	65	40	40	65		57	57
SOCIAL WORKER	8	47	67	47	42	42	52	57		90
YOUR IDEAL JOB	9	47	62	47	42	42	52	57	90	

JOB CLUSTERS



The other matrix (below) is of construct matching scores and is derived from the grid ratings in the same way. However, since constructs are bi-polar, the matching scores can be negative or positive, varying from -100 to +100. A high negative score indicates that it is the opposite poles of two constructs which are related. The higher the matches between constructs the more likely the individual is to be using different words to mean the same thing. Lower matches indicate constructs used in a more discriminating way.

SIMPLE CLUSTER ANALYSIS

Since the matching scores indicate the relative strength of the relationships between jobs or constructs, they can be grouped in clusters in terms of these scores. The procedure is the same for both matrices. Note that the top right half of the matrix is a mirror image of the bottom left half since, for example, the relationship between 2 and 1 is the same as between 1 and 2.

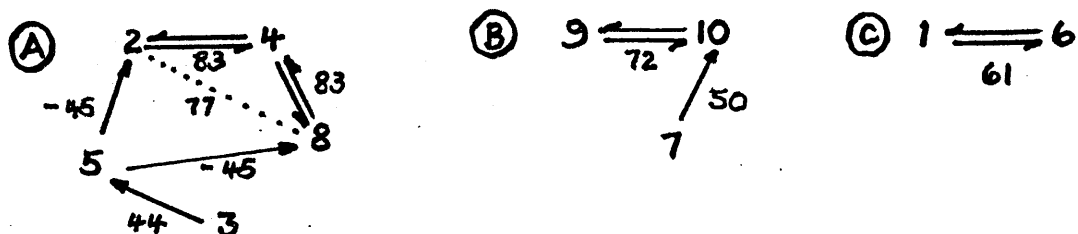
The highest score in each column should first be circled. If there are two or more equal highest scores, as in column 3 opposite, then the others should be underlined so as not to forget them. The highest score in the whole matrix should now be identified; this is between jobs 4 and 5, with a match of 100. These two are joined into cluster A as shown. The double-headed arrows are a convention to indicate that for both of the jobs this is their highest matching score. Now the rows for constructs 4 and 5 are checked to see if there are any other circled or underlined scores. In this case there are no others, so the cluster is complete.

The next highest score in the matrix, which is 90, is now taken as the basis for the next cluster (B), and the procedure is repeated; similarly for the score of 80 and cluster C. Cluster D demonstrates how to deal with other circled or underlined scores in the rows for highly matched jobs. In this case both 2 and 7 have a match of 65 with job 3, although the single-headed arrows indicate a high match for one of the pair only. The jobs can then be identified to see if the clusters are appropriate groupings in relation to the constructs.

The construct matrix should be analysed in the same way; note that a dotted line is used to show a match of 77 between constructs 2 and 8 although this is not circled or underlined in the matrix. When confirming that clusters are complete, both rows and columns for each job or construct number in the cluster should be checked for any further matches, such as that of -45 between constructs 5 and 8 in the column for construct 5.

	1	2	3	4	5	6	7	8	9	10	
OUTDOORS < 1		27	27	33	5	61	0	27	-12	16	INDOORS
MORE RESPONSIBILITY < 2	27		-23	83	-45	11	5	77	-17	-12	LESS RESPONSIBILITY
ON THE JOB TRAINING < 3	27	-23		-17	44	22	27	-23	5	33	LONGER/OFF THE JOB TRAINING
VARIED < 4	33	83	-17		-39	16	0	83	0	-6	ROUTINE
CAN START FROM SCHOOL < 5	5	-45	44	-39		22	27	-45	27	33	HAVE TO BE OLDER
MESSY JOB < 6	61	11	22	16	22		-17	11	-17	11	MOSTLY CLEAN
MOSTLY IN ONE PLACE < 7	0	5	27	0	27	-17		-6	44	50	MOVING AROUND
AUTONOMOUS < 8	27	77	-23	83	-45	11	-6		-17	-12	FOLLOWING INSTRUCTIONS
NORMAL DRESS < 9	-12	-17	5	0	27	-17	44	-17		72	WEAR UNIFORM
NORMAL HOURS < 10	16	-12	33	-6	33	11	50	-12	72		UNSOCIAL HOURS/SHIFTS

CONSTRUCT CLUSTERS



The construct clusters identified are as follows:

- A) responsible, varied and autonomous jobs for which one has usually to be older, contrasted with those with less responsibility, more routine and following instructions, and which one may start from leaving school;
- B) jobs with normal working hours and for which one wears ordinary dress, working in one place, contrasted with those with unsocial hours, wearing uniform and moving around;
- C) jobs which are outdoors and messy, contrasted with those that are indoors and clean.

Cluster B in particular could perhaps lead to some interesting discussion. A young person could be encouraged to try to think of a job with unsocial hours that does not require the wearing of uniform, or a job with normal hours that does.

APPENDIX 6

Case studies of repertory grids used with young people
during the research programme:

- 1 Steven
- 2 Pearse
- 3 Nicholas
- 4 Vincent.

CASE STUDY 1

STEVEN

Background

At the time of using the grid program Steven had just received confirmation of the offer of one of the jobs he had applied for, as an apprentice electrician. Consequently his use of the grid became an example of confirming and supporting his own job choice with constructs he had not verbalised before.

Steven was a quiet boy from a close and very stable home background. He had a younger sister and a younger brother who were both still at school. His mother was perhaps a bit over-protective and even slightly dominating in relation to Steven, and much of his out-of-school activity was within the confines of the family. Consequently he seemed to find some difficulty in making relationships with adults or peers outside of the family group. He seemed to have few close friends at school, although as a direct result of the lunch-time careers sessions in school he was able to establish a good relationship with two boys who were more extrovert than himself, and they began to spend some time together in shared activities.

Steven's parents took an active interest in his school work and consequently in his careers guidance and job seeking. His father attended a parents' evening at the school when he took the opportunity to discuss the availability of Steven's choice of job, which was influenced anyway by the fact that he himself

was employed in electrical maintenance work for London Transport. An important point here is that parental opinions are amongst the most influential factors in a young person's occupational choice. The extent to which this may be due to the similarity of construction which develops, as a result of the relationship between parents and children, could provide an interesting source of information about individual young people.

Father also helped quite a lot at the time when Steven was applying for jobs, to see that he did what was suggested. Steven complained that his father had made him re-write several of his application letters when they were not good enough.

His main out-of-school activity was his membership of the local Air Cadet Corps, and hence his inclusion of the R.A.F. in his list of jobs. Not surprisingly even his membership of a youth organisation was in a very structured, formal and therefore more secure situation. He was currently an acting corporal, and his responsibility for mostly younger boys was within this secure setting. Incidentally he also used the lunch-time sessions at school to recruit some new members, by getting to know them when they first came in to talk about work. He had been involved in flying and a number of technical activities whilst in the cadets, and this is reflected in the technical interest in his job choice.

Steven was regarded at school as very much an average pupil and was expected to achieve some CSE grade 3 or 4 passes in the examinations at the end of the year. He was taking a good range of subjects, since the school policy was to make mathematics,

English language, and one science compulsory. He was taking physics as the latter, and for his option subjects he had chosen chemistry, biology, technical drawing and metalwork. He admitted on the questionnaire which he had completed before his first interview that chemistry and English were his weakest subjects. The question 'what careers have you seriously considered ?' was left blank.

Initial contact and careers guidance

The first opportunity for contact with Steven was not in the interview situation but in a small group in the careers room, when he was reading information on electrical work. In his first short interview the following week he was rather monosyllabic and appeared defensive. This impression was supported by teacher comments about his general unresponsiveness in class. At this stage he represented a good example of the difficulties involved in developing rapport with some young people when first meeting them in a situation in which they perhaps feel insecure. Kelly's idea of threat is appropriate here because Steven also gave the impression that he expected to be told he could not do the job he was really interested in. This would imply unsettling changes to his construct system about work, although he had been unable to verbalise these constructs up to that point, and therefore to justify his reasons for making his particular job choice. Consequently in interview he tried to avoid the issue by saying that he did not have any job ideas. When questioned further

he did mention electrician and motor mechanic as two jobs he was at least considering.

As a follow-up to the interview it was suggested that Steven use the grid program in order to clarify the reasons for his choices, and to check their validity. Before doing this he also attended a couple of more formal careers information talks in school relating to his particular job ideas, and he obviously gained something from these in that his grid constructs include information given about the relative availability of particular jobs in the local area.

The importance of the informal lunch-time sessions for developing easier relationships with young people was very evident in Steven's case. Over a period of six months or so he rarely missed the Friday sessions, although on some occasions he used it just as somewhere to go instead of being outside the school building. The topics of conversation on such occasions included those directly related to the world of work and jobs, but also extended to talk about leisure activities, ideas about adult life-styles and so on. Frequently Steven himself said very little, in keeping with his reticent personality, but listened to the conversations taking place. It was in this situation that he slowly began to develop his friendship with Mark and Stephen, and eventually they all appeared together each week.

Steven was also involved later in a two-week work experience placement as part of the school careers education programme, and when visited during this he had obviously gained a lot in

personal confidence, as well as developing a number of new constructs about work.

Grid elicitation

Steven's grid can be seen in Appendix 2, as an example of the print-out from the KELLY computer program. His initial job list was as follows:

- 1 electrician
- 2 police
- 3 mechanic
- 4 carpenter
- 5 R.A.F.
- 6 builder
- 7 ideal job.

Already it could be seen that the process had made him include jobs which had not been previously mentioned, either in interview or elsewhere. All of the jobs listed were ones that he had considered doing himself, except for 'ideal job' which was added to his list as a suggestion. During the program run four element matches and one construct match were fed back, resulting in four new constructs being elicited, and one new job added to the list.

Steven eventually ended up with the following constructs in his print-out (constructs 1-5 were elicited in response to triads of elements; constructs 6-9 in order to attempt to reduce high element matching scores):

- 1 keeping law and order - not keeping law and order
- 2 wear uniform - casual wear
- 3 on building site - anywhere
- 4 one trade - general
- 5 apprenticeships - O.T.J. (on-the-job training)
- 6 not technical - technical
- 7 few jobs - plenty of jobs
- 8 no science - science needed
- 9 work in one place - can go abroad.

In response to an 85.7 percent match between constructs 4 and 5 he added an extra job, that of window cleaner. When explaining the constructs he said that construct 4 meant learning a single main trade as part of the job, such as woodwork in a carpentry apprenticeship, compared with a general training in a number of different skills as might apply when working for an employer doing general building work and maintenance. Construct 5 was to do with the kind of training involved. Apprenticeships usually have a set period of training with day-release to college for continuing study, with a recognised certificate at the end; on-the-job training is less organised and generally at a lower level, with no recognised qualification. To split these highly matched constructs he introduced the job of window cleaner as involving on-the-job training but only a single main skill as he saw it.

Steven was one of only two of the case studies to introduce construct 7. The fact that he had actual experience of applying

for jobs is probably significant here. Many young people have otherwise realistic job ideas that cannot become reality because of the specific local employment situation.

Grid summary and analysis

Steven's grid shows a good degree of construct discrimination, from a similarity of 86 between constructs 1 and 2 down to a similarity of only 13. This represents a good spread and shows that he was using his constructs to define quite separate ideas. The high match between 1 and 2 is not a surprising one, even though the constructs themselves are distinctly different. He also showed a better knowledge of jobs than is often the case, and not revealed in his initial interview. However some of this knowledge may reflect the value of the lunch-time sessions and group talks for providing increased opportunities to explore relevant information.

The highest remaining matches between jobs are both at a similarity of 75 and are between police and R.A.F., and between mechanic and electrician. The first of these relates to the match between constructs 1 and 2. The second pair consists of his two most preferred jobs anyway. The various element matches which were fed back whilst using the program were between the following jobs:

- a) ideal job - carpenter
- b) mechanic - ideal job
- c) carpenter - electrician

d) police - R.A.F.

An element match between ideal job and electrician was not split because, as mentioned above, Steven had already been offered an electrical apprenticeship and was therefore seeing this as his ideal job even more than previously. This match was at a similarity of 92.

In view of the fact that all of the jobs included were ones that he had at some stage considered doing himself, and excluded any specific dislikes or other jobs he had not considered, it is interesting that the matching scores were not as high as might have been expected. However it is also reasonable to suggest that such a pattern of high matches might have indicated a limited construct system, which was obviously not the case with Steven.

Follow-up

Steven gained the following results in the CSE examination in the summer (grade 1 high to grade 5 low):

mathematics (4); English language (3);
physics (5); chemistry (5); biology (5);
metalwork (2); technical drawing (3).

As further comment on this he did succeed in passing the entry selection tests for building apprenticeships, administered by the Construction Industry Training Board. The pass level in these is supposedly equivalent to about grade 2 or 3 in the

CSE examination, including mathematics, English and science.

Steven's case shows the relative unimportance in some circumstances of specific academic qualifications in terms of actual examination passes, and particularly where employers use their own selection tests. Employers also often rely on other impressions such as those gained in an interview for example. Steven's parents were invited to attend his interview for the job, and parental support and interest were obviously regarded by the employer concerned as important factors in success. This contradicts some of what Roberts (1968) said about the importance of qualifications for job entry. It also emphasises the need for correct application procedures in job seeking. These include applying early enough to a number of employers, and spending time on preparing good application letters and forms. These are techniques that all young people can be trained in, and where the careers officer's knowledge and expertise can help minimise the effect of less controllable factors.

Steven called in to the careers office during his Christmas holiday to show off his new motorbike. By this time he had been in his job for five months. He was quite talkative about the job and how he felt he was getting on. He seemed to be enjoying himself and said that it was more or less what he had expected. Although the grid was not used again with him, it was obvious that he had developed some new and more specific constructs in contrast to the generalised ones he had used previously. In particular these related very much to relationships with his instructors and supervisors, and comments on how more experienced

and skilled workers tended to use short cuts to do a job more quickly.

Comment

Steven's case study is a straightforward one, intended to demonstrate some of the points of usefulness of the grid method. It supports each of the criteria for assessment of the value of the technique listed in section 2.1 of Chapter III. These included use of job titles that had not been mentioned before, an increased ability to verbalise ideas, and more effective use of interview time. The information gained in advance by use of the computer program can allow the counsellor to reach a more understanding relationship with each young person in a shorter time. This leads to better use of the time available for either exploring a young person's construct system, or attempting to effect change in this if it is seen as necessary in order to help the individual in personal decision-making.

CASE STUDY 2

PEARSE

Introduction

The case study of Pearse is included as an example of a young person who appeared to have a rather impermeable construct system, and who was threatened by any form of discussion and

feed-back that questioned this. His use of the grid shows an attempt to rigidly confirm his own thinking and to ignore any feed-back which contradicts what he had already decided. It also demonstrates the effect of a very limited construct system on job choice.

Pearse was one of the earliest users of the grid in the pilot trial group, and at that stage the best way of using the grid print-out in interviews was still being tentatively explored. Consequently the outcome in part demonstrates the need for the counsellor to be able to refer back to appropriate aspects of personal construct theory in order to more effectively help the client. However, Pearse was at the same time not very willing to accept any real discussion of his ideas, and he avoided further follow-up. This has implications for any counselling relationship in the sense that a willingness to explore, to be involved, and to accept the possibility of challenges to one's way of thinking are perhaps pre-requisites for any subsequent change or action. Pearse did at least agree to try the grid, but only reluctantly, and then hoping that it would not challenge him to think afresh.

Background

Pearse was an academically able boy, in potential at least, but who underestimated his own ability. He was rather quiet and lacked self-confidence in talking to adults. The most important influence on his job ideas seems to have been his father, who

was in building work. Consequently in his initial interview Pearse mentioned bricklaying as his job choice, but he was both unable to verbalise reasons for this or to show any great conviction in making it. Since he was taking mostly GCE 'O' level subjects at school, and since bricklaying is basically a craft level job with an entry standard of about grade 2 or 3 in the CSE examination, it was suggested that he also might consider the 'O' level entry technician opportunities within the building industry if that was the area which interested him. This was not least because there was less competition for the available jobs at that level, particularly for well qualified applicants. At craft level bricklaying was currently one of the more difficult trades to enter, because of a shortage of vacancies in relation to the number of young people wanting to do it.

He had already decided that he was going to leave school at the end of the fifth year, so it was suggested in his preliminary interview that he use the opportunity offered by the lunch-time sessions to explore alternatives. In fact he did not do this. When he was seen subsequently for a further interview he remained unprepared to discuss alternatives, particularly at the higher level which he felt he was not capable of. Bricklaying continued to be his main and apparently only choice, but he was still vague about the reasons for this. At this point it was suggested that he might use the grid, either to provide ideas for subsequent discussion or at least to help himself to clarify the reasons for his choice.

Grid elicitation

Pearse's job element list was as follows:

- 1 bricklayer
- 2 technician
- 3 bus driver
- 4 carpenter
- 5 doctor
- 6 bank clerk
- 7 ideal job.

As in other cases element 7 was included as a careers officer's suggestion. Unfortunately the first random triad of elements consisted of:

- 3 bus driver
- 7 ideal job
- 1 bricklayer.

This possibly helped him to begin a process of 'proving' bricklaying to be the right job. It is worth following this process to see how he was effectively trying to distort the grid in order to make a point. A print-out of the completed grid is provided opposite to assist this.

Four triads were presented for elicitation of constructs before producing a matching score of 100, the maximum possible, between his constructs 2 and 3. These were replaced by a single construct which is number 5 in his grid print-out, and is

***** SUMMARY *****

- 1 BRICKLAYER
- 2 TECHNICIAN
- 3 BUS DRIVER
- 5 DOCTOR
- 6 BANK CLERK
- 8 CARPENTER

CONSTRUCTS

- 1 WELL PAID - NOT WELL PAID
- 2 OUTDOOR JOBS - INDOOR
- 5 NOT IDEAL JOB - BRICKLAYING
- 6 DON'T HANDLE MONEY - HANDLE MONEY
- 7 DON'T SAVE LIVES - SAVES LIVES
- 8 DANGEROUS - NOT DANGEROUS
- 9 HIGH QUALIFICATIONS - LOWER QUALIFICATIONS
- 10 GIVES ORDERS - FOLLOWS ORDERS
- 11 CONSTRUCTION INDUSTRY - NOT CONSTRUCTION INDUSTRY
- 12 USES BRICKS - USES WOOD

ELEMENT MATCHING SCORES

	1	2	3	5	6
2	67				
3	62	50			
5	52	75	50		
6	42	55	75	60	
8	72	75	55	55	60

CONSTRUCT MATCHING SCORES

	1	2	5	6	7	8	9	10	11
2	-9								
5	41	33							
6	-42	0	-67						
7	-17	8	8	-9					
8	-9	33	16	16	25				
9	-9	16	16	16	25	83			
10	-17	25	25	-9	50	25	8		
11	-9	0	-50	66	25	-17	-17	-9	
12	25	0	16	0	-9	16	16	25	0

identical to both of the two replaced. Notice the wording of this, which is not only an inappropriate construct but also demonstrates his way of thinking. It is an example of Kelly's idea of tight construing, preventing new elements from being incorporated. After construct 7 an element match of 83 between carpenter and ideal job was fed back. He was unable to think of a suitable construct to split these, so they were replaced by the single element 8. It is interesting that the match was not between bricklayer and ideal job, but he ignored this fact anyway. There was a subsequent element match between technician and carpenter, which was split by construct 10. However the ratings for this should be noted, as they suggest either an incorrect pole reversal or some kind of rationalisation. Two further inappropriate constructs were introduced to split element matches: construct 11 for a match between technician and doctor, and construct 12 for a match between bricklayer and carpenter.

Follow up

Sadly Pearse did not turn up the following week in school when he was due to discuss the results of the grid, nor did he answer the subsequent follow-up letters offering further help. In keeping with his lack of real conviction he did nothing about applying for bricklaying jobs until quite late in the school year, when he applied to his local council for an apprenticeship. This was too late for any vacancies that might

have been available. His subsequent results in the summer examinations were:

GCE 'O' level	maths: grade C pass
	history: grade B pass
	religion: grade A pass
CSE	English: grade 2
	science: grade 3.

Note that these do not reflect any particular practical bias. Nevertheless had he applied in time he might have stood some chance of passing the selection tests for one of the various technician level vacancies in building related work, or of getting a place in a further education college on one of the then new full-time Technical Education Council courses in building studies. If he had applied he would probably have had a good chance anyway of getting one of the relatively few craft apprenticeships in bricklaying that had arisen. He had been warned, but took no notice, of the risks involved in waiting until his examination results came out in August before making any decisions.

When he left school Pearse chose to go to a careers office nearer to where he lived, thus effectively side-tracking the issue of having to discuss the issues further. When his progress was checked as part of standard follow-up he had remained unemployed for several months, waiting for bricklaying vacancies. He had just been accepted for a bricklaying training scheme run by the local council under the Youth Opportunities

Programme. However this was only for a period of six months, involved being paid only a training allowance rather than wages, and had little prospect of permanent employment at the end.

CASE STUDY 3

NICHOLAS

Background

Nicholas had been unemployed continuously for a period of six months since leaving school in June 1980, when he was referred for further help. Although he was not part of the original group selected for the pilot study, his case is interesting for several reasons.

During the time he had been unemployed Nicholas had been claiming supplementary benefit, but had not apparently been showing much interest in actually looking for work which was one of the official conditions of such benefit payments. He had seen several different members of the careers office staff and at various stages had been offered the chance of considering a place on the Youth Opportunities Programme, as well as possible jobs. He had been given the opportunity for further help in trying to make an appropriate job choice, by use of the APU Occupational Interests Guide, and the KELLY computer program, both of which he had rejected up to that point. The office staff were unsure what the next step should be and hence

his referral. After an initial short talk with him to update information records, he was persuaded that both the APU guide and the KELLY program might have something to interest him, in view of the fact that he still seemed to be confused in his thinking. He had seemingly come to accept unemployment as an ideal situation for the time being, and it was pointed out that the KELLY program might just as easily confirm this as challenge it. It was at this point that he agreed to try these new approaches.

Nicholas did not conform to the majority of the young people on the unemployment register since he had actually passed three GCE 'O' level examinations, in English language, history and geography. Indeed his ability in English language was such that he had taken and passed it a year earlier than is usual, at the end of the fourth year in school. Very few young people with such academic qualifications remain on the register for very long, unless they are changing jobs or looking for something that is particularly difficult to find.

What is significant is that Nicholas seemed to have developed a construct system around unemployment that was strong enough to resist parental or peer group pressure to conform and show an interest in work, as well as being able to ignore potential feelings of guilt in claiming supplementary benefit payments and not being prepared to take a suitable job. Nicholas's case presented quite a challenge to the assumptions made, both by the careers officers who had seen him and the other staff, precisely because he had accepted unemployment as an ideal

situation.

Nicholas had an older brother at university which might have put a bit of pressure on him to do well academically, although he tended to deny this. He also had a younger brother still at school. He said that his parents were concerned, but had given up trying to insist that he should get a job. However later remarks suggested that their attitude had begun to change again.

Because they are very relevant, detailed notes are given here on what had happened with Nicholas up to the point of his using the grid program.

Earlier stages of guidance in school

September: completed basic questionnaire in which he was expecting to take six GCE 'O' levels and two CSEs, in addition to the English language 'O' level he had already passed. Indicated that geography was his strongest subject, but that maths and physics he found difficult. For use of leisure time he wrote: "at home or out in the countryside when possible". Seemed to prefer to avoid people and work alone, although at this stage he also played the saxophone in the school band.

His school report for the careers officer had these comments: "Nick has gained very favourable reports in all the subjects he is studying and finished his fourth year on a high note. He is a dependable and intelligent boy; rather thoughtful and quiet. Attendance and punctuality very good. He doesn't mix

easily, but seems quite at ease amongst others. He generally works hard".

December: first interview with a careers officer. Careers discussed mostly outdoors such as forestry, agriculture, horticulture and landscape architecture.

May: standard follow-up letter to check if further help needed, indicated that Nicholas had decided to remain at school to take GCE 'A' levels in geography and history.

September: completed further questionnaire for the Advanced Course Specialist careers officer, in which he indicated that he was still considering agriculture. Check-list of interests very much orientated to individual or solitary activities; music had now been dropped; emphasis on cycling, walking, reading, gardening in spare time.

Ongoing guidance after leaving school

Following September: after a lengthy period of time, and when he should have been starting the second year of his 'A' levels, Nicholas came to the careers office with his mother. Mother came in but Nick remained outside. He was signed on to claim supplementary benefit by the office supervisor, whose notes suggested that Nick seemed to have some kind of mental 'hang-up' which made him afraid to return to school, go to work, to claim benefit or even to call in to the office. Some of this opinion appeared to have come from Nick's mother.

September: interview appointment with another careers officer, who noted that the interview was inconclusive, but that Nick was to see him again when he had thought about what had been discussed. In general Nicholas had decided not to return to school to complete his 'A' level studies; he did not want to work where he had to deal with people; he had gone off the idea of agricultural work, but had little apparent interest in any other outdoor jobs. He seemed quite happy to continue as he was, going on country walks, reading, and listening to music at home. The careers officer tried to discuss with him some of the implications of this.

October: Nick was due to call in, but was unable to as he had gone away on holiday with his parents.

November: still vague when seen by the same careers officer again. Nicholas did however mention working for the National Trust or the local Parks Department. An action plan was formulated for the following week. Nick was to try to contact the local Parks Department for the borough, and also the G.L.C., as well as the National Trust. He was to call back the following week to say what he had found out. In fact he did not turn up for this subsequent interview.

December: at this point the office supervisor took UB30 action, which was a procedure by which claimants could not sign for their payment at the benefit office until they had called in to the careers office where they were registered.

Nick still did not call in, and the same action was taken again in January. Nick called in as a result of this. The careers officer talked to him about the Youth Opportunities Programme, since it is standard procedure to make an offer of a place on this to any young person who has been unemployed for more than six weeks, but he was not interested.

March: careers officer's interview notes: "A rather long, inconclusive discussion. Nicholas is content to potter around at home and really does not want to commit himself to work. He did express an interest in part-time work".

March to October: during this period Nick was seen nine times, mostly by the office staff as a result of being called in, and on one occasion being referred by the D.H.S.S. Benefit Review Officer. He was not interested in any of the jobs or work experience offered to him, including part-time vacancies in sales work.

It was at this point that Nick was referred again and agreed to do the APU Occupational Interest Guide (see page 52), and to use the KELLY computer program.

APU Guide results

Perhaps not surprisingly the result of the APU was inconclusive. Nick's ranked interest categories, along with the 'like' and 'dislike' scores were as follows:

	score	likes	dislikes
natural	22	0	3
literary	20	0	7
artistic	18	0	9
practical	16	0	16
social service	12	0	13
persuasive	11	0	17
scientific	10	0	18
computational	3	0	26

This can be seen to be a rather negative and 'skewed' result. The large number of dislikes, and the total absence of likes, is very unusual and suggests complete antipathy towards the kind of activities included in the guide. The APU (now replaced by JIIG-CAL) consisted of 112 pairs of activities that are involved in various kinds of work. These activities could be grouped in the general categories above, and each pair required a forced choice preference. It was also possible, but not essential, to indicate 'like' or 'dislike' for either or both activities in each pair. Consequently the preferred activity in any pair could still be indicated as a dislike.

When the results were discussed with Nick he said that none of the activities really interested him, and that he had not felt very involved when doing the guide. The preference order was logical in view of what was already known about him. The natural category, which consisted mostly of outdoor activities, work with animals and some areas related to agriculture and horticulture, was highest. The literary and artistic categories

were next; social service and persuasive, involving lots of contact with people, were both low. Scientific and computational had the lowest scores, reflecting his acknowledged weaknesses in maths and physics at school. In fact the results revealed little, if anything, that was not already known from his own comments, apart from emphasising his apparent negative attitude towards most activities involved in work.

Nick's grid

As with other case studies in this group, Nick introduced information into his grid which had not appeared elsewhere in any notes up to that point.

The job element list he used was as follows:

- 1 part time shop assistant
- 2 train guard
- 3 office clerk
- 4 farmer
- 5 photographer
- 6 unemployment.

Element 6 was included as a suggestion. Job 1 was something that he had been considering, but had refused offers of vacancies made to him. Job 4 was the only one given previous thought, whilst 2, 3 and 5 had not been mentioned before.

The constructs elicited also provided new insights into Nick's thinking. The constructs in his grid were:

- 1 decide use of own time - unable to decide use of own time
- 2 outdoor occupations - indoor occupations
- 3 low degree of physical activity - high degree of
physical activity
- 4 opportunity to travel - no opportunity
- 5 working with people - working alone
- 6 high paid - low paid
- 7 part time - full time
- 8 high responsibility - low responsibility
- 9 low free time - high free time
- 10 low promotion prospects - high promotion prospects.

Comments on the grid

It is interesting that in view of the relatively small number of elements he used, Nick produced a reasonable number of very distinct constructs. This suggests that he had thought quite a lot about his situation. In addition all of the constructs were appropriate to all of the elements. Nick was unusual in understanding this point.

The match between constructs 1 and 9 showed a negative score, although one might have expected them to be positively related. This may have been due to using the construct poles in a way which effectively reversed the ratings. Nevertheless the ratings do suggest that Nick saw these constructs as separate, even though related. The highest similarity is between constructs 8 and 9, with a matching score of 67, but this might have been

reduced if he had continued.

He was asked about the inclusion of train guard and photographer in his element list. The former had not been considered previously because he had not been eligible in terms of age, but he was now considering applying. With regard to the latter he said that he did some photography in a rather non-committal way when he was out in the countryside or elsewhere. His view of this as a job was not surprisingly that of the self-employed freelance who decided his own use of time.

Part-time employment was discussed as a compromise way of retaining some free time, which seemed important to him. The main factor which would have made unemployment less attractive would have been the stopping of his benefit payments. Part-time work would at least provide some income.

JOB MATCHING SCORES

	1	2	3	4	5
2	47				
3	75	57			
4	57	65	67		
5	60	67	55	57	
6	57	50	57	55	67

CONSTRUCT MATCHING SCORES

	1	2	3	4	5	6	7	8	9
2	25								
3	33	-25							
4	0	25	-34						
5	-9	-17	25	-25					
6	33	25	0	33	8				
7	0	-25	0	16	25	33			
8	-9	16	8	8	33	25	8		
9	-9	16	-9	8	33	25	-9	66	
10	41	16	25	-25	33	25	8	33	16

In the element similarity scores unemployment joined at a match of 58 with train guard and photographer, which were paired with a matching score of 67. Nick admitted that he did see unemployment almost as an ideal 'job' at that time. He could not see the point in taking a job which he would not like, and which provided no satisfaction, in a situation where there was high unemployment and many other young people who would willingly consider any vacancies that became available.

Nick did say that he had enjoyed using the program, found it interesting, and that it had made him think in a new way about his attitudes to work and so on without necessarily changing them.

Follow up

Eventually it was decided to allow Nick to continue unemployed for the time being, as he seemed to be basically happy with the situation, even if there might be a change later on. It was explained to him that the official situation meant that he must observe the formality of calling in regularly to the office to look at job vacancies, in order to fulfill the availability regulation that goes with claiming supplementary benefit. This he continued to do, but there was a gradual deterioration in the employment situation at that stage which made his chances of finding a suitable job less anyway. Subsequently Nick took a temporary Civil Service clerical job, which was for about six weeks only, thereby not committing himself to anything long-term.

He then went back on to the unemployment register.

The grid could have been used as a counselling aid for construct change, but this involves questions about the counsellor's own attitudes to such change and the individual's right of choice not to work. This was why Nick was such a challenge to staff. He had been offered various part-time vacancies in sales, warehouse, catering and other areas, but had refused all of them as too routine whilst continuing to say that he wanted part-time work only. He did apply to British Rail to become a train guard, but seemed unwilling to follow up the application when he had not had a reply. When seen by a careers officer again he said that he was now on the waiting list. He admitted to being under renewed pressure from family and friends to find a job, but whilst beginning to accept that he would not find an ideal job he was still unprepared to compromise beyond something part-time. So far the official system had not put him in a position where he would have been forced to change, as would have been the case if benefit payments had been stopped. However a follow-up questionnaire sent later included replies which suggested that his short experience of work had begun to change some of his constructs. In response to a question about whether the job had been different to what he had expected, he replied that 'it was more interesting, varied and enjoyable than I thought it would be'. Surprisingly his reply to a question about what he had liked best about the job was 'coming into contact with many different people'. He had in fact been working in the local Unemployment Benefit Office.

CASE STUDY 4

VINCENT

There are some interesting aspects about this case study, which help to put the repertory grid technique into a realistic context. Vincent's use of the grid program is an example of Kelly's idea of inferentially incompatible construct sub-systems, since his real constructs about work relate to a leisure-time activity rather than to the jobs which appear in his grid opposite. His initial interview did not suggest anything unusual, apart from being unable to make a career decision. He had indicated that he preferred to leave school and get a job, rather than continuing in education. Academically he was above average and was studying for several GCE 'O' levels. The grid program was suggested in order to help him think through his ideas.

Perhaps the most important point about Vincent's case is that the grid technique has its limitations, needs to be used within a context of personal construct theory, and in no way replaces the inter-personal skills and insights of the counsellor. In retrospect there are some clues in Vincent's grid to his way of thinking, but they are not initially obvious. It is not essential to go into a lot of background here since it is of little relevance, except for the fact that his father owned and ran an off-license which Vincent helped with part-time and that there was the possibility of doing it as a full-time job. Hence the inclusion of this in the job list. Otherwise Vincent seemed to prefer something practical. His constructs generally seem to

CAREERS SERVICE - WANDSWORTH

VINCENT'S GRID

		OFF LICENCE WORK							
		^ CARPENTRY							
		^ ^ PLASTERER							
		^ ^ ^ PLUMBER							
		^ ^ ^ ^ POSTMAN							
		^ ^ ^ ^ ^ ACCOUNTANT							
		^ ^ ^ ^ ^ ^ YOUR IDEAL JOB							
		^ ^ ^ ^ ^ ^ ^							
		1	2	3	4	5	6	7	
LONGER HOURS	< 1	1	4	4	3	5	3	5	SHORTER HOURS
IT DEALS WITH WOOD	< 2	5	1	3	3	3	5	3	IT DEALS WITH MONEY
MOSTLY OUTDOORS	< 3	5	2	4	4	1	5	3	MOSTLY INDOORS
WORK ALONE	< 4	1	4	5	5	1	1	5	WORK WITH OTHERS
MOVE AROUND	< 5	5	4	4	4	1	5	1	DO NOT MOVE AROUND
MORE INTERESTING	< 6	5	5	1	4	5	5	1	SAME ROUTINE
BORING	< 7	3	2	5	3	1	1	5	INTERESTING

JOB MATCHING SCORES

	1	2	3	4	5	6	7
1		46	39	60	42	85	21
2	46		57	71	60	53	46
3	39	57		78	32	39	82
4	60	71	78		46	60	60
5	42	60	32	46		57	50
6	85	53	39	60	57		21
7	21	46	82	60	50	21	

CONSTRUCT MATCHING SCORES

	1	2	3	4	5	6	7
1		0	-8	35	-8	-8	21
2	0		64	-36	35	21	7
3	-8	64		0	71	14	28
4	35	-36	0		0	-58	57
5	-8	35	71	0		42	0
6	-8	21	14	-58	42		-58
7	21	7	28	57	0	-58	

indicate the kind of social consensus viewpoint suggested by Edmonds (1979) rather than personally relevant constructs. In the interview after using the grid Vincent showed a certain amount of apathy towards the idea of work in general. His repetition of the 'boring - interesting' construct provides a hint of this. It was some months after an inconclusive second interview that he asked to be seen again. At this point he revealed that he had a serious interest in playing snooker, which occupied most of his time, and an offer had been made to sponsor him as an amateur full-time player. His mother was not keen on the idea, although father supported him. He wanted to discuss it further before making a decision. He admitted that his school studies were suffering because he was devoting most of his time to snooker, and he did not expect to pass any 'O' levels. Any jobs he might apply for would need to be those not requiring these, and hence the interest in plastering in his grid. Snooker was what he really wanted to do as a job, but he needed convincing that this was acceptable. His grid reflects his expectation that he should consider work in more conventional terms.

He subsequently did not bother to take his exams, but took up the snooker offer and has been doing well since then. At one stage he was listed as number twelve in the top one hundred best amateur players in England. Although the opportunity did not arise, it would have been interesting to compare his constructs about snooker with those about work, since the former would certainly have been more personal, and perhaps would have revealed his real feelings about 'normal' employment.

APPENDIX 7

Naturalistic Enquiry : a summary, and discussion of the implications for research methods in relation to personal construct theory.

Although the research discussed in this thesis was not planned and carried out using a naturalistic approach, the nature of personal construct theory makes discussion of several aspects of naturalistic enquiry very appropriate here. It contrasts strongly with the more conventional approach to social sciences research, which itself adopted ideas from the natural sciences. This frequently involves the use of controlled experimental settings, where attempts are made to hold certain variables stable, in order to observe changes in other factors and to draw conclusions from these. Naturalistic enquiry offers an alternative way of planning, carrying out, reporting and evaluating research, which is more in keeping with the ideas of George Kelly.

The following is based on a book entitled 'Naturalistic Enquiry' by Lincoln and Guba (1985). Its arguments are detailed and rather complex but some of its main ideas are presented in a series of characteristics specific to this approach to scientific research. Lincoln and Guba suggest fourteen characteristics of naturalistic enquiry which contrast it with the more conventional approach to research. What follows is a summary of these, which are discussed in more detail in their book.

Probably the most important characteristic is that naturalistic research is normally carried out in a natural setting, using what might be called the 'real life' situation. The specific careers guidance context of the present research is an example of this. Within this setting the human instrument, the individual researcher, is the primary data-gathering 'tool'. This is because

only a human instrument is seen as being capable of identifying and understanding the complexities involved in any situation, which Lincoln and Guba refer to as the 'multiple realities', and at the same time having the ability to be aware of the effects that any instrument has in terms of bias on the outcomes. Non-human instruments can be used to assist data-gathering, as was the case with the micro-computer and program used here, but this is only secondary to the essential human involvement.

Utilisation of tacit knowledge by the researcher enables better appreciation of the multiple realities in each situation. Tacit knowledge is intuitive or felt, in contrast to propositional knowledge which can be expressed in language form. The use of qualitative methods in preference to quantitative ones assists the understanding of both the multiple realities involved, and the value patterns which are involved in researcher and respondent relationships in the research contexts. This is very relevant to the vocational guidance situation where the careers adviser needs to be aware of personal bias when helping the client to make personal decisions. In construct theory the emphasis is very much on the quality of what the individual may be trying to say.

Naturalistic enquiry favours purposive sampling rather than random sampling of research groups, since the former is more likely to include the full range of multiple realities involved. More conventional random samples aim at establishing norms or making generalisations, but these tend to exclude the interesting individual differences which are the main concern of construct

theory.

There follow four characteristics which are closely linked with each other. The use of inductive data analysis encourages conclusions which arise directly out of the research data rather than using deductive analysis to support or discount a previously stated research hypothesis. Much research starts with a theoretical proposition or hypothesis which the research is then designed to test or explore. In the naturalistic approach the emphasis is on grounded theory which evolves from the research data, being grounded in it. Such theory then reflects more of the reality of the research context. Similarly the research uses emergent design, which unfolds from the ongoing research programme, rather than having an inflexible pre-set design which cannot respond to unpredictable factors in carrying out the research. A practical example of this can be seen in the pilot project which was the subject of Chapter III, and where the research had to respond to organisational changes to be continued effectively. Of significant importance in a context of personal construct theory is the use of negotiated outcomes, where the human sources of the research data, the respondents, are involved in negotiating the meanings and interpretations placed on the data because, in the words of Lincoln and Guba, "it is their constructions of reality that the enquirer seeks to reconstruct". Indeed these words might have been written by George Kelly.

Naturalistic enquiry favours a case study reporting mode rather than a technical or analytic report, since it is more able to describe the multiple realities met with. Similarly the use

of ideographic interpretation emphasises individual differences rather than "lawlike generalisations" which are emphasised by nomethetic interpretation. Because the multiple realities are different in each case and in each research context, the naturalistic researcher makes only tentative application of the findings to other situations.

Naturalistic research uses focus-determined boundaries to ensure that inquiry is limited to the relevant issues which emerge from the research context. Finally it requires special criteria for trustworthiness, since the conventional criteria for evaluating research are not appropriate in the naturalistic context.

In naturalistic enquiry the four conventional aspects of internal and external validity, reliability and objectivity as applied to research evaluation are replaced by the criteria for trustworthiness which are called credibility, transferability, dependability and confirmability. Lincoln and Guba provide detailed explanations of how these criteria are applied in the different stages of research to ensure that the procedures adopted and the results and conclusions obtained are acceptable to other researchers. In addition the use of an 'audit trail' enables conclusions to be back-tracked using information from the research to check that such conclusions are reasonable. The grid print-outs from this research constitute such items of information. Credibility is concerned with the degree to which any findings are credible in relation to the procedures

and results obtained. Transferability is concerned with the extent to which any findings can reasonably or appropriately be applied to other contexts. Dependability is concerned with the degree to which the procedures carried out can be shown to be appropriate, if necessary by step-wise replication, and confirmability enables the various results of the research such as data elicited and interim findings to be used to demonstrate that conclusions are a logical result of these.

REFERENCES

OFFICIAL DOCUMENTS

- Employment and Training Act (1948), London, HMSO.
- Employment and Training Act (1973), Chapter 50, London, HMSO.
- Employment and Training Act (1973), The Careers Service, Guidance to Local Education Authorities in England and Wales (1980 Revision), London, HMSO.
- National Youth Employment Council, Final Triennial Report (1974), London, HMSO.
- Report of the Committee on the Juvenile Employment Service (1945)(the Ince report), London, HMSO.

OTHER REFERENCES

- Bannister,D. and Fransella,F. (1971), Inquiring Man: The Theory of Personal Constructs, Harmondsworth, Penguin.
- Bannister,D. and Mair,J.M.M. (1968), The Evaluation of Personal Constructs, London and New York, Academic Press.
- Bedford,T. (1982), Vocational Guidance Interviews, Report on a Survey by the Careers Service Inspectorate, London, Department of Employment, Careers Service Branch.
- Blau,P.M., Gustad,J.W., Jessor,R., Parnes,H.S. and Wilcox,R.C. (1956), Occupational Choice: a Conceptual Framework, Industrial Labour Review, Vol.9, pp.531-43.
- Burt,C.L. (1926), A Study in Vocational Guidance, Industrial Fatigue Research Board, Report No.33, London, HMSO.
- Carter,M.P. (1962), Home, School and Work: a Study of the Education and Employment of Young People in Britain, London and Oxford, Pergamon Press.
- Cherry,N. (1974), Do Careers Officers Give Good Advice?, British Journal of Guidance and Counselling, 2, pp.27-40.
- Cherry,N. and Gear,R. (1984), Young People's Perceptions of Their Vocational Guidance Needs, London, Department of Employment, Careers Service Branch.

- Clarke,L. (1980)(a), Occupational Choice: A Critical Review of Research in the United Kingdom, Department of Employment, Careers Service Branch Report, London, HMSO.
- Clarke,L. (1980)(b), The Practice of Vocational Guidance: A Critical Review of Research in the United Kingdom, Department of Employment, Careers Service Branch Report, London, HMSO.
- Department of Education and Science/Department of Employment (1987), Working Together for a Better Future, London, Central Office of Information.
- Earle,F.M. (1931), Methods of Choosing a Career, London, Harrap.
- Edmonds,T. (1979), Applying Personal Construct Theory in Occupational Guidance, British Journal of Guidance and Counselling, Vol.7 No.2, pp.225-33.
- Esland,G., Salaman,G. and Speakman,M.(eds.) (1975), People and Work, Edinburgh, Holmes McDougall/The Open University Press.
- Fransella,F. and Bannister,D. (1977), A Manual for Repertory Grid Technique, London and New York, Academic Press.
- Ginzberg,E., Ginsburg,S.W., Axelrad,S. and Herma,J.L. (1951), Occupational Choice: An Approach to a General Theory, New York, Columbia University Press.
- Gould,L. (1976), Matching the Unskilled by Job Preference, London, Employment Service Agency.
- Handyside,J. and Stott,M.B. (1958), The Effectiveness of Vocational Guidance, Medical World, October, pp.369-74.
- Himmelweit,H.T., Humphreys,P., Jaeger,M. and Katz,M. (1981), How Voters Decide, London, Academic Press.
- Hinkle,D. (1965), The Change of Personal Constructs from the Viewpoint of a Theory of Construct Implications, unpublished dissertation, The Ohio State University.
- Holland,J.L. (1966), The Psychology of Vocational Choice: A Theory of Personality Types and Environmental Models, New York, Ginn.
- Humphreys,P., Svenson,O. and Vari,A.(eds.) (1985), Analysing and Aiding Decision Processes, Amsterdam, North Holland.
- Hunt,E.P. and Smith,P. (1944), Scientific Vocational Guidance and its Value to the Choice of Employment Work of a Local Education Authority, Birmingham, City of Birmingham Education Committee.

- Jahoda, G. and Chalmers, A.D. (1963), The Youth Employment Service: A Consumer Perspective, Occupational Psychology, 37, pp.20-43.
School Leavers' Recall of the Interview with the Youth Employment Officer, Occupational Psychology, 37, pp.112-21.
- Kelly, G.A. (1955), The Psychology of Personal Constructs, New York, Norton.
- Killeen, J. and Watts, A.G. (1983), The Place of Research in Careers Guidance, Careers Bulletin, Department of Employment, Careers Service Branch.
- Krumboltz, J.D. (1976), A Social Learning Theory of Career Selection, The Counselling Psychologist, 6, pp.71-81.
- Law, B. (1981), Community Interaction: A 'Mid-Range' Focus for Theories of Career Development in Young Adults, British Journal of Guidance and Counselling, Vol.9 No.2, pp.142-58.
- Lincoln, Y. and Guba, E. (1985), Naturalistic Enquiry, California, Sage.
- Maizels, J. (1970), Adolescent Needs and the Transition from School to Work, London, Athlone Press.
- Roberts, K. (1968), The Entry into Employment: An Approach Towards a General Theory, The Sociological Review, Vol.16, pp.165-84.
- Roberts, K. (1975), The Developmental Theory of Occupational Choice: A Critique and an Alternative (in Esland, Salaman and Speakman(eds.)(1975)).
- Roberts, R.J. (1980), An Alternative Justification for Careers Education: A Radical Response to Roberts and Daws, British Journal of Guidance and Counselling, Vol.8 No.2.
- Shaw, M. (1978), Focus on Education - An Interactive Computer System for the Development and Analysis of Repertory Grids, International Journal of Man-Machine Studies, Vol.10, pp.139-73.
- Smith, M., Hartley, J. and Stewart, B. (1978), A Case Study of Repertory Grids Used in Vocational Guidance, Journal of Occupational Psychology, Vol.51, pp.97-104.
- Super, D. (1953), A Theory of Vocational Development, American Psychologist, Vol.8, pp.185-90.
- Thomas, R.K. (1979), Starting Work and After, Office of Population Census and Surveys, London, HMSO.

Wooler, S. (1979), Modelling and Aiding of Career Transitions:
A Short Introduction to a Proposal for Research,
unpublished notes, Decision Analysis Unit, Brunel
University.

Wooler, S. and Erlich, A. (1985), Aiding the Client and the
Counsellor: An Exploration of Interdependence Between
Structuring and Weighting in Career Decision Problems
(in Humphreys, Svenson and Vari(eds.)(1985)).